AUTOMOTIVE INDUSTRIES
The AUTOMOBILE

VOL. XLVIII NEW YORK—THURSDAY, FEBRUARY 22, 1923 No. 8

Study of 1922 Statistical Story Shows Few Trend Shifts

Notwithstanding enormous production, percentages in price classes follow closely normal curve. Closed car output gains only two per cent. Truck sales take forward stride in comparison with passenger cars. Facts told by figures.

ANALYSIS of the statistical story told by the record-breaking motor vehicle production figures for 1922 discloses that there have been no sensational overturns in the trends which have been apparent since the war. This applies not only to units sold in the various price classes but also to closed cars. The percentage of closed models turned out was only 2 per cent greater than in 1921. Probably the most striking change was in relation to trucks, which took another step forward in the percentage tables in comparison with passenger cars.

Careful study of 1922 production statistics provides added evidence that it is possible to forecast fairly accurately at the close of one year what is likely to happen in the next twelve months, if due consideration is given current conditions.

A total of 2,577,000 motor vehicles was produced in 1922, of which 2,334,000 were passenger cars and 243,000 were trucks. Closed car output was approximately 633,000. The following brief tabulation gives the 1922 production of the major automotive products:

Passenger cars	2,334,000
Trucks	243,000
Motorcycles	30,000
Tractors	150,000
Tires	37,500,000

Passenger car and truck figures are entirely accurate. The motorcycle and tractor figures are reliable estimates, sufficiently exact for business purposes. The tire figure is accurate within 10 per cent.

These general statistics depict the enormous size to which the automotive industry has grown and the rapid progress made in the last twelve months. For more practical purposes, however, they must be split up into more detailed divisions and applied more specifically to current automotive selling and production problems.

EIGHTEEN months of delayed buying, reductions in prices and general improvement in business conditions all played their part in speeding up automotive production last year to a higher plane than it ever had attained before. The story of 1922 is familiar. The next problem is to relate the 1922 figures to those of previous years and thus try to determine their meaning in a relative sense.

The production data presented here are designed to assist executives in making market analyses, setting production schedules, gauging competitive conditions, and laying plans for future commercial activities. Predictions have been made in some cases. These are based on normal trends and must be correlated with a study of current conditions to be of maximum value.

Good business for the first six months of 1923 seems to be assured. Profitable business may be expected for the whole year. Some of the factors which operated to make 1922 the biggest year in history are lacking in

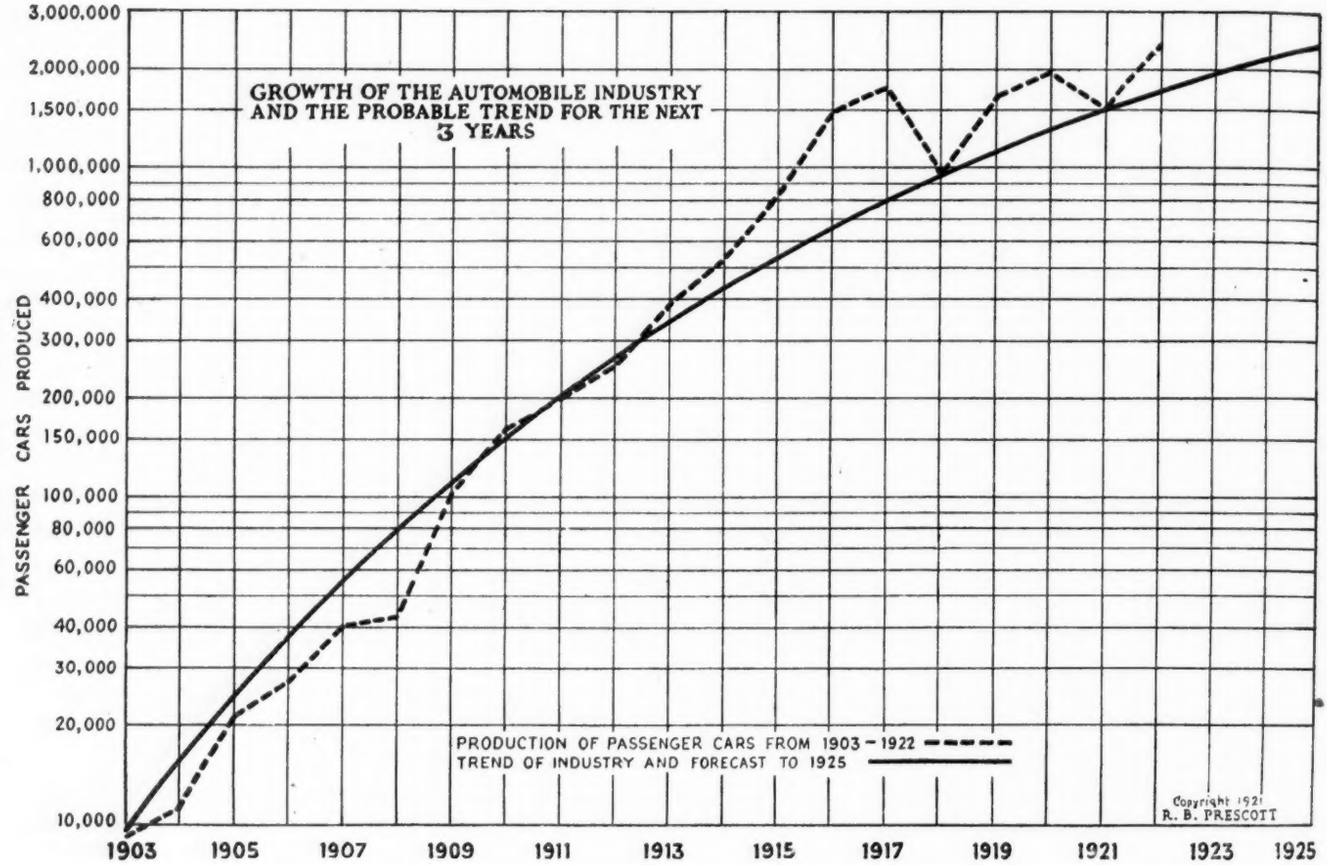


Fig. 1

1923, however. A strong demand for new cars still exists, but with it there is a corresponding demand for dealers to accept used cars in trade. The used car market must be considered as a unit with the new car market. Other conditions—some favorable, some unfavorable—have changed.

The normal curve of passenger car production indicates that about 2,000,000 passenger cars will be built in 1923. There may be some variation from this normal. The figure given for this year may be too conservative, but plans made with it as a basis are likely to be safe.

The normal trend of passenger car production is compared with actual production in the chart shown in Fig. 1. The chart in Fig. 2 gives a detailed analysis of this trend by price-classes. The prediction for 1923 indicates a slight drop from the 1922 figure in every class except the $2,000-$3,000 group. A rise there is probable, not because of any condition inherent in that class, but because a firmly established car with relatively high production has recently come into that price group from the one above.

Further analysis of production is contained in Table 1. Here is shown the actual production by price-classes from 1912 to 1922 inclusive, together with the percentage of total production in each group. These percentages do not change radically from year to year. A proper interpretation of the data makes it possible to predict with reasonable accuracy a year in advance the percentage of total production likely in each of the price groups. The following comparison of the prediction made by AUTOMOTIVE

Analysis of Passenger Car Production

Year	Under $1,000	$1,000 $1,999	$2,000 $2,999	$3,000 $3,999	$4,000 and Over
1912	128,704	87,274	13,360	5,352	9,055
	52.8%	35.7%	5.5%	2.2%	3.8%
1913	236,092	111,253	18,219	5,233	9,947
	62.0%	29.2%	4.8%	1.4%	2.6%
1914	352,397	128,950	35,480	7,435	5,208
	66.5%	24.4%	6.7%	1.4%	1.0%
1915	638,333	155,592	16,010	3,407	6,765
	77.8%	19.0%	2.0%	.4%	.8%
1916	1,129,393	197,144	26,877	11,087	3,984
	82.5%	14.4%	2.0%	.7%	.3%
1917	1,418,351	247,058	35,728	12,947	4,392
	82.6%	14.4%	2.0%	.7%	.3%
1918	735,346	153,667	33,635	3,290	5,238
	78.9%	16.5%	3.6%	.4%	.6%
1919	1,040,750	499,924	75,502	25,280	9,616
	63.0%	30.3%	4.6%	1.5%	.6%
1920	1,185,407	590,780	86,201	23,841	29,758
	62.2%	31.0%	4.5%	1.2%	1.6%
1921	1,071,553	291,432	62,144	18,308	13,311
	73.5%	20.0%	4.2%	1.3%	1.0%
1922	1,807,861	439,594	53,322	24,490	12,275
	77.5%	18.7%	2.3%	1.0%	.5%
1923	1,560,000	350,000	62,000	20,000	8,000
	78.0%	17.5%	3.1%	1.0%	.4%

Table 1

Closed Car Production by Years and Price Classes 1915-1922

(Percentage of Total Production)

	1915	1916	1917	1918	1919	1920	1921	1922
Under 1000	.014	.014	.03	.06	.09	.16	.21	.26
1000-2000	.03	.04	.05	.06	.08	.12	.18	.29
2000-3000	.07	.10	.24	.22	.24	.22	.36	.39
3000-4000	.08	.10	.10	.20	.27	.43	.41	.44
Over 4000	.27	.37	.33	.25	.27	.30	.47	.56
Total	.015	.015	.04	.07	.10	.18	.25	.27

Table 2

INDUSTRIES a year ago with the actual percentage in each price class illustrates this point admirably:

Percentage of Production in Various Price Classes

	Under $1,000	$1,000–$2,000	$2,000–$3,000	$3,000–$4,000	Over $4,000
Forecast (made 1 year ago)	78%	18%	2.5%	1%	.5%
Actual	77.5%	18.7%	2.3%	1%	.5%

The predictions for 1923 are shown in Table 1. Little change is expected in the percentage distributed to each price class.

Relative growth of passenger car and truck production since 1912 is shown in Fig. 3. In the early years, the rate of growth of car production was the more rapid. When the war came, however, truck production was materially stimulated, while car production fell below its normal rate of development.

Last year truck building went ahead relatively faster than car production. This condition is to be expected from now on. The distinction between actual growth and rate of growth is necessary, of course, to an understanding of this chart.

Quarterly fluctuation of car production is graphically shown in Fig. 4. A general survey of this chart indicates that production is affected by general business conditions just as much as by seasonal factors, if not more so. The one characteristic that has been consistent since 1914 is a decline in the last quarter, but even this fails to hold true for 1912 and 1913.

This chart has not been presented before and is worth

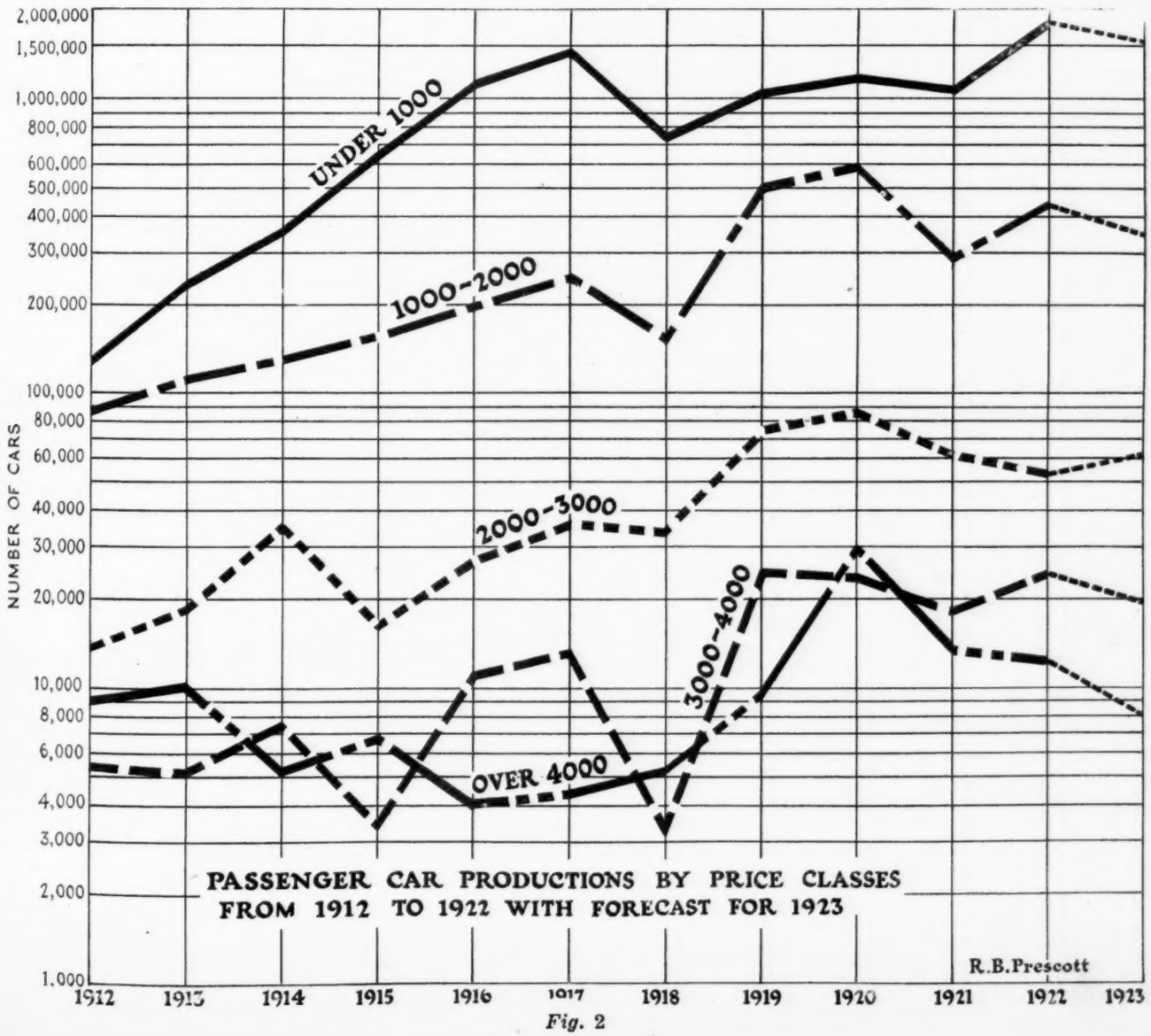


Fig. 2

Passenger Car Production by States; 1912-1922

	Mich.	Ind.	Ohio	N. Y.	Ill.	Wis.	Conn.	Mo.	N. J.	Pa.	Va.	Mass.	Ga.	Ky.	S. Car.
1912....	193,307	5,305	32,914	9,653	1,218	11,482	2,016	894	375	724	...	851	...	...	...
1913....	296,877	8,188	42,901	6,385	3,100	13,541	2,018	1,205	573	582	113	721	...	...	...
1914....	432,156	7,990	51,637	5,826	2,108	15,551	1,230	1,454	502	388	106	591	...	...	...
1915....	636,721	17,329	102,562	6,550	3,099	22,795	943	1,015	527	4,300	22	...	...	...	...
1916....	1,041,971	29,083	156,586	7,153	7,092	41,477	895	2,632	740	5,364	119	...	...	...	...
1917....	1,341,857	37,918	150,225	12,632	10,975	32,016	762	2,067	685	1,574	205	...	...	...	...
1918....	671,943	21,561	97,343	8,066	10,111	24,234	370	1,464	360	415	191	...	...	...	...
1919....	1,344,346	34,557	94,661	11,659	14,292	49,150	484	1,930	583	875	269	...	...	249	751
1920....	1,488,707	39,837	142,015	13,034	22,021	52,165	785	2,813	968	1,464	195	33	32	188	1,180
1921....	1,315,366	22,128	66,692	10,504	9,463	24,663	327	5,797	495	543	145	158	375	...	481
1922....	1,919,126	133,143	134,292	64,983	15,280	46,460	350	16,151	330	408	115	315	240	200	6,300

Table 3

careful study in connection with sales and production planning.

Trends in closed car production are shown in Fig. 5, while Table 2 gives the statistics from which the chart was compiled. Closed car production constituted 27 per cent of the total in 1922. This is an increase of only 2 per cent over 1921. The gain would undoubtedly have been much larger had manufacturers been able to produce all the closed cars which their dealers desired. A considerable increase in the closed car percentage may be expected in 1923, provided body building facilities can meet the demand.

More than half of the high priced cars being built are already of the closed type, while even in the lowest price class, one-fourth of the total production is of closed jobs.

Production of cars by states is given in Table 3. Michigan, with Ford, Chevrolet, Dodge, Buick and other big production companies, heads the list. It is followed by Ohio, with Indiana a very close third. New York, although not generally considered a large producer of cars, stands fourth in the list.

Data on truck production is shown in Figs. 6 and 7. Since there never yet has been a series of what might be called normal years in truck production, trend studies are very difficult in this field.

Foreign Production

ESTIMATES of foreign automobile production are published this year for the first time. Official figures cannot be obtained and even reliable approximations are difficult to get.

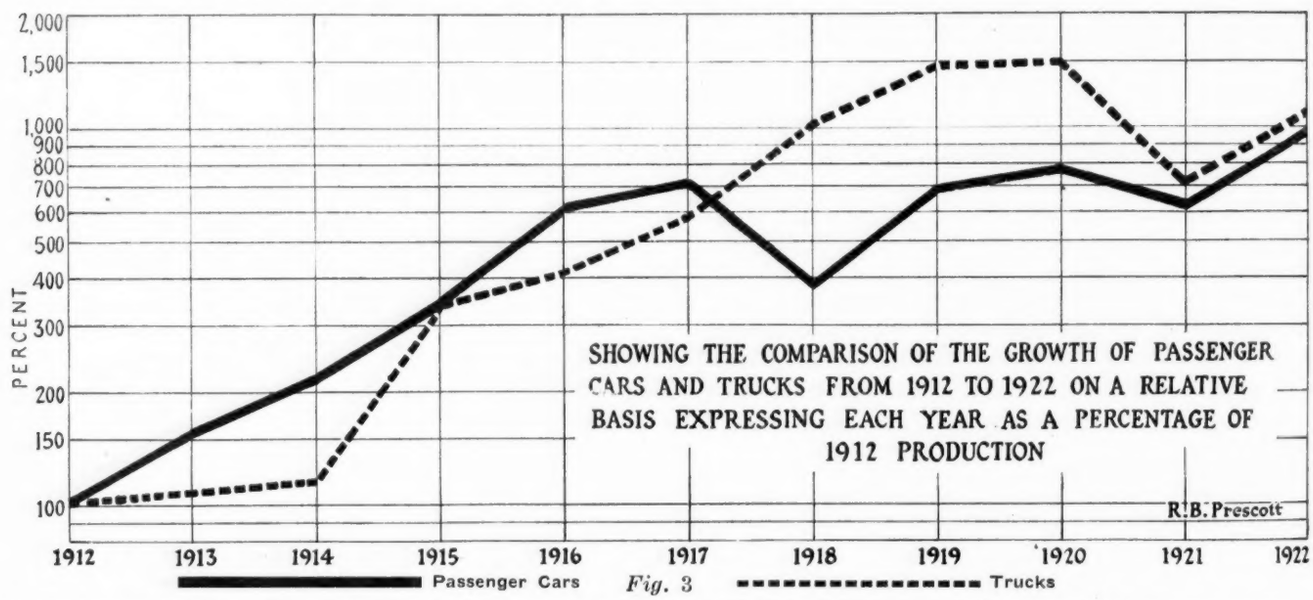


Fig. 3

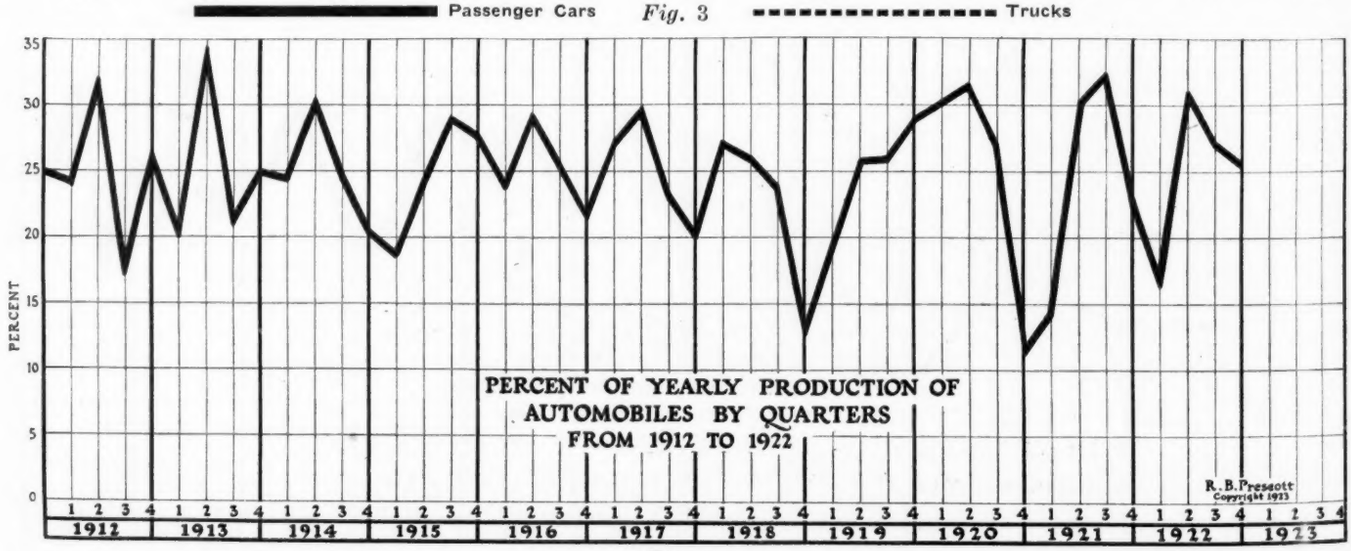


Fig. 4

Following are motor vehicle 1922 production estimates for all of the important automotive manufacturing countries in the world:

Canada	125,000
France	75,000
Great Britain	63,000
Germany	46,300
Italy	15,000
Belgium	2,600
Czechoslovakia	3,000

The Canadian estimate is based on actual production figures for 1920 and 1921 recently published by the Canadian government.

There is probably considerable duplication between the United States and Canadian production figures. Most of the Canadian production is the output of Canadian plants operated by American manufacturers. These latter usually include in their production figures the output of their Canadian plants.

French figures were compiled by W. F. Bradley, French correspondent of AUTOMOTIVE INDUSTRIES. They are based on observation, checked up with the export and registration statistics. Commenting on French production, Bradley writes:

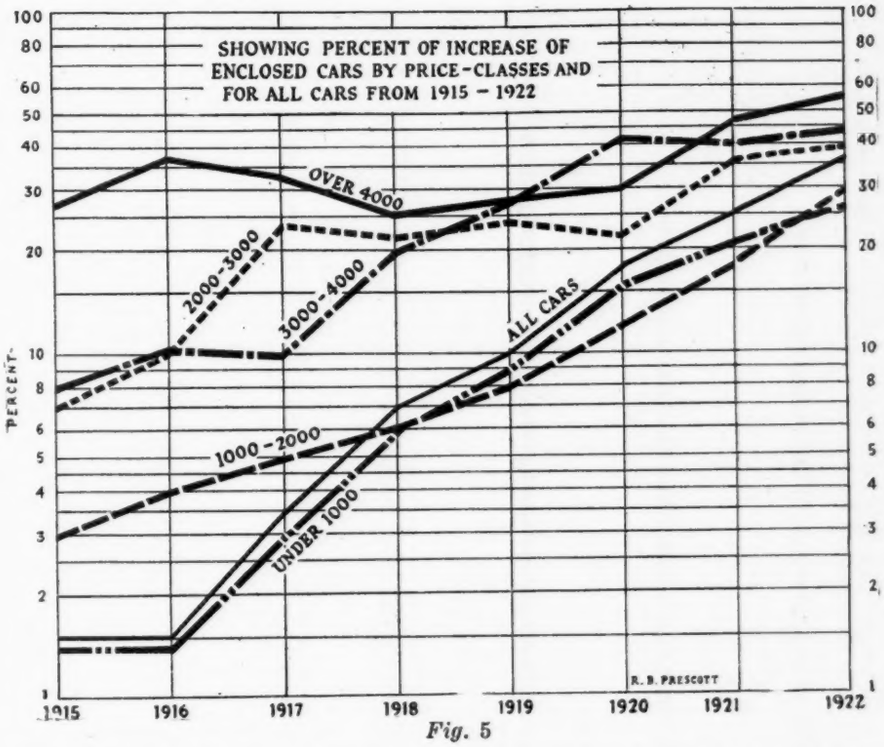


Fig. 5

"French automobile production for the year 1922 may be estimated at 75,000 cars, of which between 12,000 and 13,000 were exported. French automobile factories make no returns to any central body regarding the number of cars produced, and indeed, in the majority of cases seek to prevent any information leaking out regarding output.

"One hundred factories are engaged in automobile production, so that the average output of the French factories is 750 cars a year, or, on the basis of 300 working days a year, 2.5 cars per day. Production, however, is far from being equally distributed among the factories.

"Citroen produces the biggest number of cars, followed by Renault, Berliet and Peugeot, these four being collectively responsible for from 50,000 to 55,000 cars. The six following firms, Talbot-Darracq, Unic, De Dion Bouton, Delage, Salmson and Mathis produce between them 16,000 cars a year, thus leaving about 9000 cars to be divided among 90 firms.

"The importance of the firms cannot be judged entirely by the numerical output of cars. Thus, although Renault comes second on the list with regard to number of cars produced, the factory is the biggest in France, for in addition to cars it is engaged on aviation engines, lighting sets, factory transmissions, rail cars, and other kinds of machinery. Panhard-Levassor, while being primarily engaged in building automobiles, has a big woodworking machinery department; Peugeot is interested in bicycles and general hardware. Berliet has a part of his factory engaged on railroad material; Hotchkiss has a much bigger turnover on guns than on automobiles; and Salm-

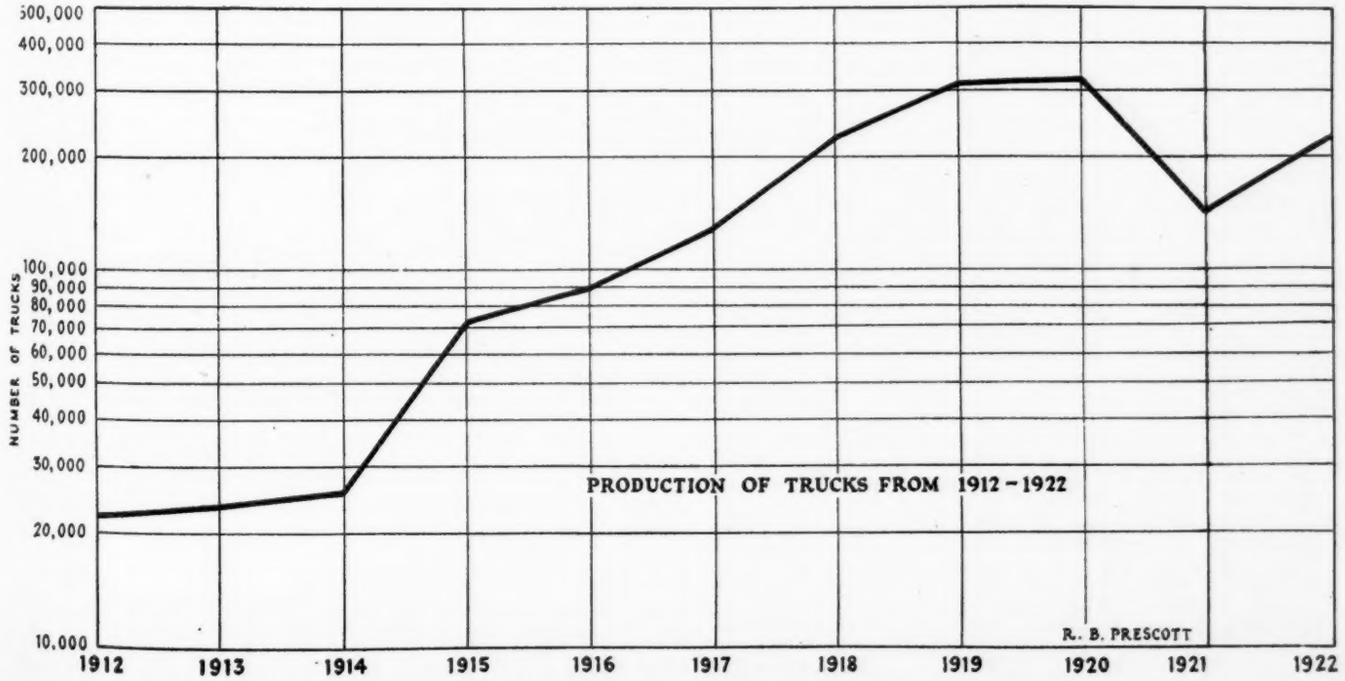


Fig. 6

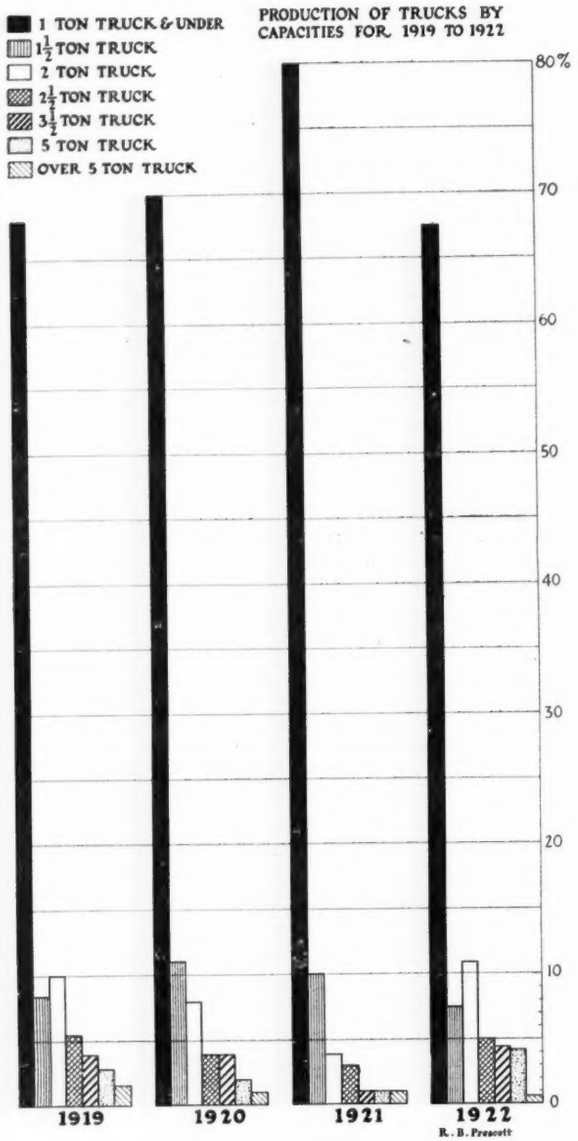


Fig. 7

son is interested in woodworking machinery, magnetos, aviation engines, and automobile bodies."

The German production total of 46,300 cars and trucks is said to be divided as follows:

Passenger cars	**31,000**
Trucks	**15,300**

Germany produced in addition about 19,000 motorcycles and about 200 tractors.

Belgian figures were developed in somewhat the same manner as the French production data, manufacturers in that country being equally unwilling to divulge production statistics.

The Czechoslovakian figures were estimated by Dr. G. Z. Stangler, Commercial Attaché, Czechoslovakian Legation, Washington, D. C.

The Italian figures are estimates based upon a report that the capacity of Italian manufacturing plants is about 35,000 vehicles a year, while 1922 operations were near 43 per cent of capacity.

A general examination of these foreign figures indicates the estimates to be liberal rather than conservative. They are sufficiently accurate, however, to give some idea of what work is being done in the foreign automotive manufacturing countries. The difference between European production methods and ideas and those of the United States is well known. It is aptly illustrated, however, by the fact that five individual American companies last year each built more passenger cars than were turned out by the 100 manufacturers in France.

Foreign automotive manufacturing countries depend on the export market to a far greater extent than do domestic producers.

France exported about 17 per cent of its total production according to the above report, while advices on Czechoslovakia indicate that an export market of nearly 50 per cent is necessary to maximum plant operations.

Recent reports from Great Britain indicate that a market of 125,000 vehicles is expected in that country for 1923. British manufacturers expect to build about 75,000 cars and trucks, the remaining 50,000 being conceded to imports from other countries. At the present time more than 300 makes of passenger cars are being offered in England. Of these 138 are British, 97 American, 54 French and 24 of other nationalities.

French Aviation Development

FRENCH aerial navigation lines, with completely equipped stations, workshops, wireless stations and emergency landing grounds, will total 6420 miles during the year 1923. These comprise only lines approved by the Government department and over which regular freight and passenger carrying planes are flown. The list is as follows:

Paris to London	233 miles
Paris to Marseilles	454 miles
Paris to Geneva	279 miles
Paris to Brussels	170 miles
Paris to Havre	112 miles
Paris to Cologne, Germany	249 miles
Paris to Constantinople, Prague and Warsaw	2,096 miles
Toulouse to Casablanca	1,146 miles
Casablanca to Oran	424 miles
Antibes to Tunis, N. Africa	590 miles
Alger to Biskra, N. Africa	220 miles
Dakar to Kayes, N. Africa	447 miles
	6,420 miles

At the end of 1922 France possessed 30 civilian airplane landing grounds under Government control. This is exclusive of private grounds and military air ports. The detail is as follows:

Aerial ports completely equipped or under construction	30
New landing grounds not completely equipped	3
Landing grounds being purchased	19
Proposed landing grounds	13
Flying boat stations equipped or under construction	4
Proposed flying boat stations	12

Seven French aerial navigation companies had 240 planes in commission on passenger and freight-carrying service according to returns dated August 31, 1922. The companies are:

Messageries Aerienne	49
Grands Express Aériens	9
Franco-Roumaine Co.	79
Compagnie d'Entreprises Aeronautiques	64
Aero-Naval Co.	3
Transports Aériens Guyanais	10
Compagnie Aérienne Française	26

14,743,468 Motor Vehicles Registered Throughout the World

Cars and trucks outside United States total 2,379,091. Increase of 17.12 per cent over world total of year ago. This country has 83.8 per cent of total registration. Total for Spanish-speaking countries reaches 289,153. Foreign sales prospects bright in 1923.

APPROXIMATELY 14,743,468 motor cars and trucks are in operation in the world, according to the 1922 census just completed by AUTOMOTIVE INDUSTRIES. The United States has 12,364,377, or 83.8 per cent. The number outside the United States is 2,379,091. These figures represent an increase of 17.12 per cent over the 1921 world registration survey.

Automotive progress outside the United States was steady in 1922. Comparison of this 1922 survey with that of one year ago reveals certain outstanding features. Among the most important are the following:

Registrations outside U. S., Jan., 1923	**2,379,091**
Registrations outside U. S., Jan., 1922	**2,083,289**
Registration gain outside U. S.	**295,802**
Percentage registration gain outside U. S.	**14.12%**
Percentage registration gain in U. S.	**17.90%**
Percentage registration gain for world	**17.12%**

The figures are the latest available from the various countries. It is manifestly impossible to obtain figures for the entire world as of any given date. Nearly all the statistics in the accompanying tables, however, apply to July 1. 1922, or to some later date. Many of them are for Jan. 1, 1923.

Estimates have been necessary, of course, in many cases. These have been made very carefully on the best authority available. Their accuracy may be questioned in certain instances. AUTOMOTIVE INDUSTRIES will be glad to receive further information tending to supplement the data published.

It should be noted that the increase recorded contains many variables, since some 1921 estimates have been revised upwards in light of later information, while others have been decreased materially. The Hawaiian figures, for example, show some 15,000, as against 1500 in last year's table, the 1921 figure having been a misprint. The estimate for Russia, on the other hand, has been decreased from 35,000 to 15,000 in view of reports recently received. Such changes as these make it impossible to regard the increase noted in the same specific sense as data for the United States alone is viewed.

Registration by Continents

The registration by continents shows North and South America well in the lead by virtue of including the United States, with Europe second. The totals are:

North and South America	13,078,279 (713,902 exclusive of U. S.)		
Europe	1,302,153	Asia	144,479
Oceania	147,189	Africa	71,368

The 2,379,091 cars and trucks outside of the United States are distributed on a percentage basis approximately as follows:

North and South America	30.0%
Europe	54.8%
Oceania	6.2%
Asia	6.1%
Africa	3.0%

Basing the percentages on the total world registration figure, including the United States, the distribution is:

North and South America	88.9%
Europe	8.9%
Oceania	.9%
Asia	.8%
Africa	.5%

Sales in Europe

About 190,000 new motor vehicles were sold in Europe last year, despite unstable economic conditions in many areas. Higher registrations are shown in nearly every country. The world has needed additional transportation and has found means to get it. Currency fluctuations, political upheavals and economic stress have all hindered automotive sales, but material progress has been made nevertheless. In a recent statement about the world economic situation for 1923, Herbert Hoover pertinently says: "Outside of Europe the world has shaken itself free from the great after-the-war slump. The production and commerce of Asia, Africa and Latin-America have recovered to levels above the pre-war. The enforced isolation of many areas of Latin-America and Asia during the war has strengthened their economic fibre by increased variety of production and has contributed vitally to their economic recovery.

"The odds are favorable for 1923; the world begins the year with greater economic strength than a year ago; production and trade are on a larger and more substantial basis, with the single exception of the sore spot in Central Europe."

Leading automotive exporters bear out this favorable forecast. Latin-America, Australia, Scandinavia and India are looked upon as specially favorable markets for the next twelve months.

The Spanish and Portuguese speaking countries, most of which are in South America, have a total of 289,153 cars and trucks, nearly as many as Asia and Oceania combined.

American exporters played a large part in the selling activities, which increased the number of motor vehicles outside the United States by some 295,000. American

cars and trucks to the number of about 185,000 went into operation throughout the world during 1922. Thus it appears, American manufacturers supplied some 63 per cent of the new motor vehicles sold in foreign fields in the last twelve months. The American figure used includes American and Canadian exports and the production of Ford foreign assembly plants, since this is the only figure which gives a true picture of American automotive export business.

Gains in United Kingdom

Great Britain has the largest car and truck registration in the world, outside of the United States. Latest figures from the United Kingdom show a total of 554,443, as against 487,099 for Canada, which is second, and 290,303 for France, which is third. The French figures, however, are available only as of Jan. 1, 1922. The number of vehicles actually in operation there at the present time is probably 15 per cent greater than the figure given.

The recent world census published by the Automotive Division of the Bureau of Foreign and Domestic Commerce showed a total of 14,622,161. This was 121,307 lower than the total given here as a result of the AUTOMOTIVE INDUSTRIES survey. The difference is accounted for chiefly by the following statement made by the Automotive Division concerning their figures: "The figures were furnished during 1922 and generally cover the previous year . . ."

The figures given in the present article, as previously noted, are almost all as of July 1, 1922, or later, 1921 figures having been used in a relatively few cases.

Approximately 879,000 motorcycles are in use throughout the world. This figure involves estimates in many countries where some data is available, and simply guesses in other cases. Information actually gathered, however, shows 609,000 motorcycles in Europe and 219,000 in North and South America, with several important countries missing in both cases.

So little tractor data are actually available that it is impossible to make even a reasonable guess as to the total number of tractors in use in the world.

The world registration survey has been more widely extended this year. Automotive figures are given for 115 different countries in the accompanying tables, as against reports from only 79 last year. The additions have been chiefly smaller countries, but their presence makes more complete the picture of motor vehicle distribution throughout the world.

Five countries have more than 100,000 cars and trucks in operation. Totals have grown, however, in practically every civilized part of the world. Better roads are being urged in many lands and active work is being done toward making conditions more favorable to effective use of motor transport.

The detailed study by continents of world automotive registrations, beginning on the next page, will be of interest to automotive executives from both a sales and production viewpoint.

World Registration of Cars and Trucks

(Alphabetically Listed)

Alaska	336	French Equatorial Africa	36	New Zealand	34,500
Algeria	14,500	French Indo China	3,960	Nicaragua	300
Angola	400	French West Indies	750	Nigeria	736
Arabia	400	Gambia	47	Norway	13,340
Argentina	90,000	Georgia	360	Other British West Indies	525
Australia	97,189	Germany	126,092	Palestine	800
Austria	11,100	German East Africa	900	Panama	2,200
Azerbaijan	160	German Southwest Africa	370	Paraguay	500
Azores	190	Gibraltar	105	Persia	1,162
Barbados	560	Gold Coast	1,401	Peru	3,500
Belgian Congo	240	Greece	3,450	Philippine Islands	13,000
Belgium	45,388	Guatemala	550	Poland	13,000
Bolivia	400	Guiana (British, Dutch, French)	1,500	Porto Rico	7,000
Brazil	27,500	Haiti	450	Portugal	9,600
British East Africa	1,553	Hawaii	15,500	Portuguese East Africa	404
British Honduras	100	Honduras	200	Portuguese Guinea	11
Bulgaria	670	Hongkong	595	Reunion Islands	156
Canada	487,099	Hungary	3,200	Rhodesia	1,400
Canary Islands	1,200	India	54,415	Roumania	6,198
Ceylon	3,975	Iceland and Faroe Is.	145	Russia	15,000
Chile	10,000	Italy	65,000	Salvador	500
China	7,481	Ivory Coast	100	Senegal	420
Chosen	785	Jamaica	1,575	Seychelles	2
Colombia	2,000	Japan	8,801	Siam	1,950
Costa Rica	225	Jugoslavia	2,200	Sierra Leone	94
Cuba	25,000	Latvia	170	Spain	47,500
Czechoslovakia	9,350	Liberia	6	Sweden	29,478
Danzig	869	Lithuania	458	Switzerland	21,000
Denmark	20,100	Madagascar	239	Syria	2,300
Dominican Republic	1,763	Madeira Islands	145	Trinidad and Tobago	1,600
Dutch East Indies	23,000	Malay Peninsula	13,750	Tunisia	2,355
Dutch West Indies	175	Malta, Gozo and Cyprus	410	Turkey	3,000
Ecuador	1,000	Mauritius	1,725	Union of South Africa	35,500
Egypt	4,878	Mesopotamia	5,000	United Kingdom	554,443
Esthonia	370	Mexico	29,000	United States	12,364,377
Finland	1,754	Morocco	2,550	Uruguay	13,500
Formosa	105	Netherlands	10,750	Venezuela	3,500
France	290,303	Newfoundland	594		14,743,468

World Registration of Cars and Trucks

(In Order of Total Number of Motor Vehicles in Use.)

United States	12,364,377	Ceylon	3,975	Salvador	500
United Kingdom	554,443	French Indo China	3,960	Paraguay	500
Canada	487,099	Venezuela	3,500	Lithuania	458
France	290,303	Peru	3,500	Haiti	450
Germany	126,092	Greece	3,450	Senegal	420
Australia	97,189	Hungary	3,200	Malta, Gozo and Cyprus	410
Argentina	90,000	Turkey	3,000	Portuguese East Africa	404
Italy	65,000	Morocco	2,550	Bolivia	400
India	54,415	Tunisia	2,355	Arabia	400
Spain	47,500	Syria	2,300	Angola	400
Belgium	45,388	Panama	2,200	German Southwest Africa	370
Union of South Africa	35,500	Jugoslavia	2,200	Esthonia	370
New Zealand	34,500	Colombia	2,000	Georgia	360
Sweden	29,478	Siam	1,950	Alaska	336
Mexico	29,000	Dominican Republic	1,763	Nicaragua	300
Brazil	27,500	Finland	1,754	Belgian Congo	240
Cuba	25,000	Mauritius	1,725	Madagascar	239
Dutch East Indies	23,000	Trinidad and Tobago	1,600	Costa Rica	225
Switzerland	21,000	Jamaica	1,575	Honduras	200
Denmark	20,100	British East Africa	1,553	Azores	190
Hawaii	15,500	Guiana	1,500	Dutch West Indies	175
Russia	15,000	(British, Dutch, French)		Latvia	170
Algeria	14,500	Gold Coast	1,401	Azerbaijan	160
Malay Peninsula	13,750	Rhodesia	1,400	Reunion Islands	156
Uruguay	13,500	Canary Islands	1,200	Madeira Islands	145
Norway	13,340	Persia	1,162	Iceland and Faroe Is	145
Poland	13,000	Ecuador	1,000	Gibraltar	105
Philippine Islands	13,000	German East Africa	900	Formosa	105
Austria	11,100	Danzig	869	Ivory Coast	100
Netherlands	10,750	Palestine	800	British Honduras	100
Chile	10,000	Chosen	785	Sierra Leone	94
Portugal	9,600	French West Indies	750	Gambia	47
Czechoslovakia	9,350	Nigeria	736	French Equatorial Africa	36
Japan	8,801	Bulgaria	670	Portuguese Guinea	11
China	7,481	Hongkong	595	Liberia	6
Porto Rico	7,000	Newfoundland	594	Seychelles	2
Roumania	6,198	Barbados	560		
Mesopotamia	5,000	Guatemala	550		
Egypt	4,878	Other British West Indies	525		14,743,468

North and South America

EXCLUDING the United States, 713,902 cars and trucks are in operation in North and South America. This is an increase of 57,452 over a year ago. Canada has 23,651 new motor vehicles, leaving a gain of 33,801 for the other countries in this group.

Canada has made considerable automotive progress in recent years. A more extensive system of good roads is being urged for the Prairie Provinces and large grain crops recently have been instrumental in providing increased buying power.

Canadian registration data are available in considerable detail, showing the distribution of cars and trucks throughout the Dominion. The present status is as follows:

	Cars	Trucks	Motorcycles
Alberta	29,692	7,953	2,318
British Columbia	22,950	8,923	1,954
Manitoba	27,414	9,987	3,475
New Brunswick	11,027	1,654	567
Nova Scotia	11,185	2,340	997
Ontario	199,487	28,654	5,859
Prince Edward Island	1,397	239	64
Quebec	52,622	11,000	2,856
Saskatchewan	51,451	9,124	3,480

Alaska figures are given this year for the first time. They are an estimate based upon accurate data for the Chugach and Tangass National Forest areas furnished by Chas. H. Flory, District Forester. This region embraces all of the principal towns in Alaska and the bulk of the population. Its road mileage, however, is not large.

The figure used for Newfoundland this year is smaller than last year's, because official detailed data has been obtained recently for the first time.

Very recent information is presented from most of the South American countries. Estimates have been made in several cases to bring the figures up to date. In a few cases authorities differ considerably as to the number of automobiles in these countries. In Cuba, for example, estimates from reliable sources vary from a minimum of 15,000 to a maximum of 30,000. The figures given, 20,000 cars and 5,000 trucks, are probably near to being accurate, judging from all available information. Recent information indicates that the figure given for Cuba last year was too low. Consequently, the actual gain for that country is less than might be assumed from a comparison of the figures for the two years.

Figures for Philippine Islands are quite accurate, since very detailed statistical records are kept in that country.

Only estimates are available for Mexico as a whole, various sources making calculations ranging from 25,000 to 32,000. A close analysis of these various estimates,

NORTH AND SOUTH AMERICA

Country	Date	Total Cars and Trucks	Cars	Trucks	Motor-cycles	Tractors
Alaska	Jan. 1923	336	219	117	.....	.....
Argentina	Jan. 1923	90,000	87,000	3,000	1,600	4,000
Barbados	Jan. 1923	560	500	60	50	.....
Bolivia	Jan. 1923	400	350	50	25	4
Brazil	Jan. 1923	27,500	26,200	1,300	600	600
British Honduras	Jan. 1923	100	80	20	.....	.....
Canada	Jan. 1923	487,099	407,225	79,874	21,570	35,000
Chile	Jan. 1923	10,000	9,400	600	.....	.....
Colombia	Jan. 1923	2,000	1,825	175	225	150
Costa Rica	Jan. 1923	225	200	25	12	.....
Cuba	Jan. 1923	25,000	20,000	5,000	300	900
Dominican Republic	Jan. 1923	1,763	1,606	157	48	.....
Dutch West Indies	Jan. 1923	175	150	25	.....	.....
Ecuador	Jan. 1923	1,000	950	50	45	10
French West Indies	Jan. 1923	750	600	150	.....	.....
Guatemala	Jan. 1923	550	525	25	60	.....
Guiana (Br. Fr. Dutch)	Jan. 1923	1,500	.....	.....	.....	.....
Haiti	Jan. 1923	450	400	50	30	.....
Honduras	Jan. 1923	200	180	20	.....	.....
Jamaica	Jan. 1923	1,575	1,250	325	60	.....
Mexico	Jan. 1923	29,000	24,000	5,000	750	450
Newfoundland	Jan. 1923	594	541	53	30	.....
Nicaragua	Jan. 1923	300	.....	.....	.....	.....
Other Br. W. Indies	Jan. 1923	525	400	125	.....	.....
Panama	Jan. 1923	2,200	.....	.....	400	.....
Paraguay	Jan. 1923	500	.....	.....	.....	.....
Peru	Jan. 1923	3,500	3,000	500	.....	.....
Porto Rico	Jan. 1923	7,000	6,000	1,000	.....	.....
Salvador	Jan. 1923	500	.....	.....	.....	.....
Trinidad & Tobago	Jan. 1923	1,600	1,250	350	285	.....
Uruguay	Jan. 1923	13,500	.....	.....	.....	.....
Venezuela	Jan. 1923	3,500	.....	.....	.....	.....
United States	Jan. 1923	12,364,377	10,857,266	1,507,111	193,495	400,000
Total	.....	13,078,279	11,451,117	1,605,162	219,585	441,114

however, indicates the figure of 29,000 given here to be very nearly correct. Detailed reports show that in the latter part of 1922 Mexico City had 11,381 passenger cars, 2,115 motor trucks and 478 motorcycles.

Of the 300 motor vehicles in Nicaragua about 125 are located at Managua, 67 at Granada, and the remainder in other districts. The figure published for Nicaragua in 1921 was too high, according to information recently obtained.

Figures given for Porto Rico are based upon data from the Department of the Interior of the Porto Rican government which showed a registration of 6,839 cars and trucks in November, 1922.

Latin American statistics have been gathered from numerous sources.

Actual registrations are not available from the Argentine, but it is probable that the number of cars and trucks in operation has already approached very closely to 100,000. The figure of 90,000 given here is a fairly conservative estimate. Argentina has become one of the major automotive countries of the world, ranking seventh in the world list of total automobile registrations.

Difficulty still exists in obtaining a satisfactory census of automotive vehicles in Bolivia. The figure of 400 given here is the estimate of D. C. McDonough, the American Consul at La Paz. Commenting upon the estimate, McDonough says that almost all of the automobiles sold in Bolivia have come from the United States. The market is now improving, he adds, owing to higher exchange and higher prices for tin, Bolivia's chief product. The automobiles most commonly used in Bolivia are American medium priced touring cars. Most of them are used in local taxi service. Bolivian conditions of operation require an abundance of power and a motor which will climb hills at a high altitude.

For some of the smaller countries in North and South America it has been necessary to make estimates based on American and Canadian export figures. Figures developed in this way include those for the following countries: British Honduras, Barbados, Jamaica, Trinidad and Tobago. Other British West Indies. Dutch West Indies, French West Indies and Haiti.

Europe

EUROPE, with a total car and truck registration of 1,302,153, includes 54.7 per cent of the automotive registration of the world exclusive of the United States. Trucks constitute a far larger proportion of the total registration in Europe than in the United States. The proportion in the United States is something like 9 to 1, while incomplete European figures indicate a proportion of about 2½ to 1.

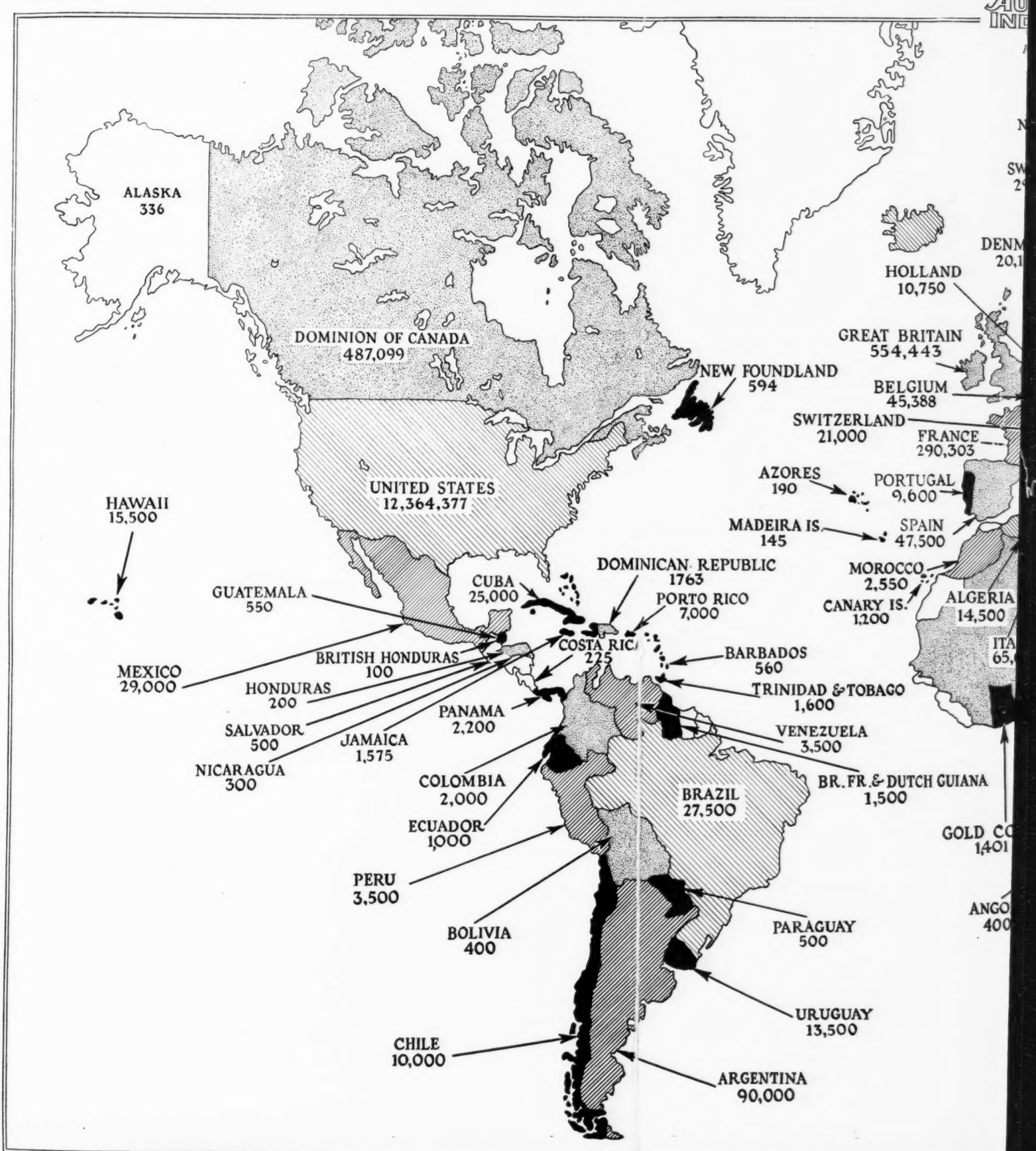
The United Kingdom leads other European countries in use of motor vehicles. A quarterly system of registration makes it difficult to determine exactly how many automobiles are in operation in Great Britain. Figures used in the accompanying table represent the high point of British registration which was reached Aug. 31, 1922. Later figures as of November, 1922, record lower totals for passenger cars and buses, but slightly higher totals for trucks. Many vehicles are put up for the winter and are not recorded in the quarterly registrations of the fall and winter months. The Aug. 31 figure has been used in preference to that of November because the former indicates more accurately the number of motor vehicles in the hands of owners in the United Kingdom.

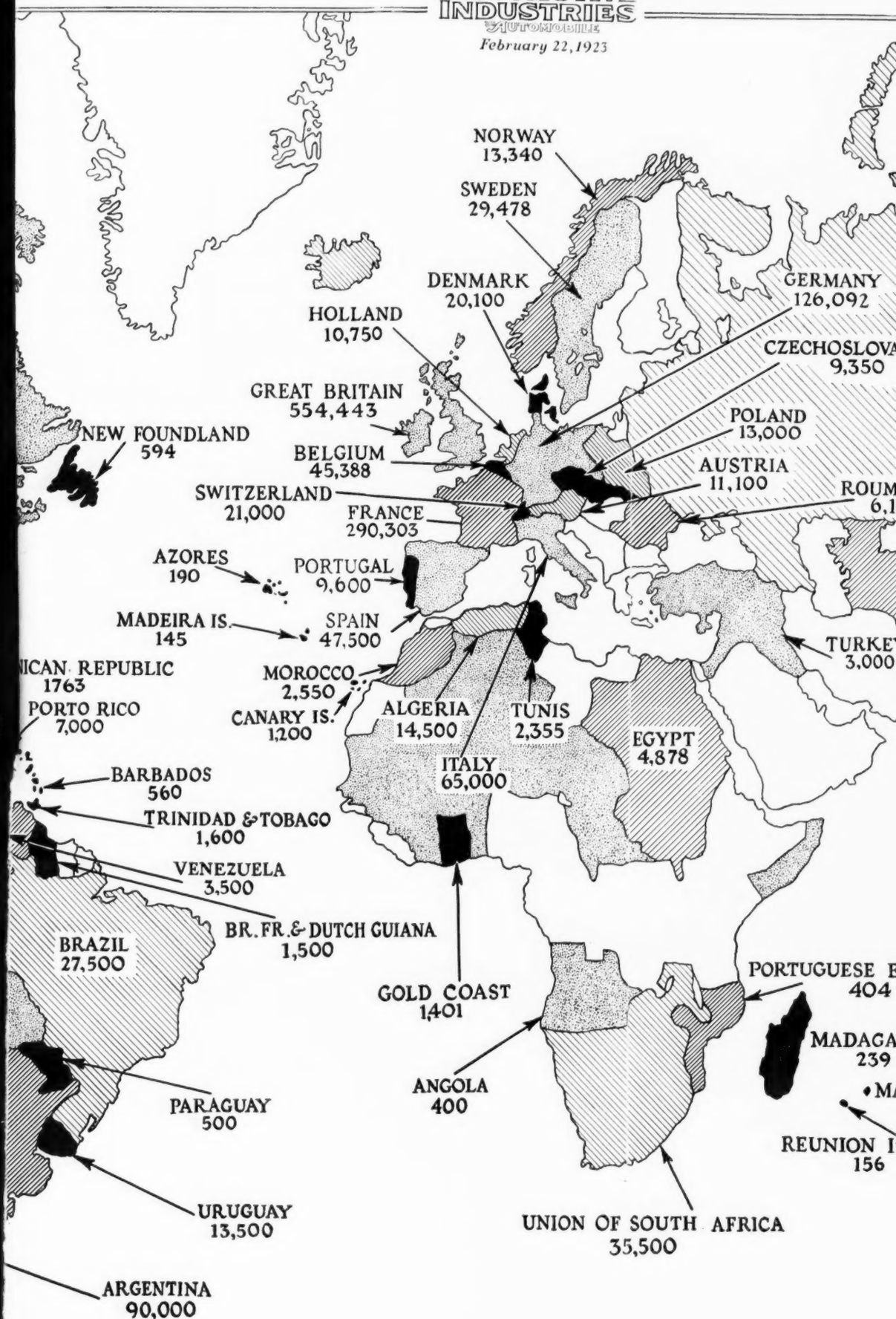
French registration is available in great detail for 1921, but no figures of any accuracy can be obtained for a later date. Consequently, the figures used in the accompanying table indicate the cars and trucks in use in France over a year ago. It is estimated that present motor vehicle use is probably 15 per cent greater than is indicated by these 1921 figures.

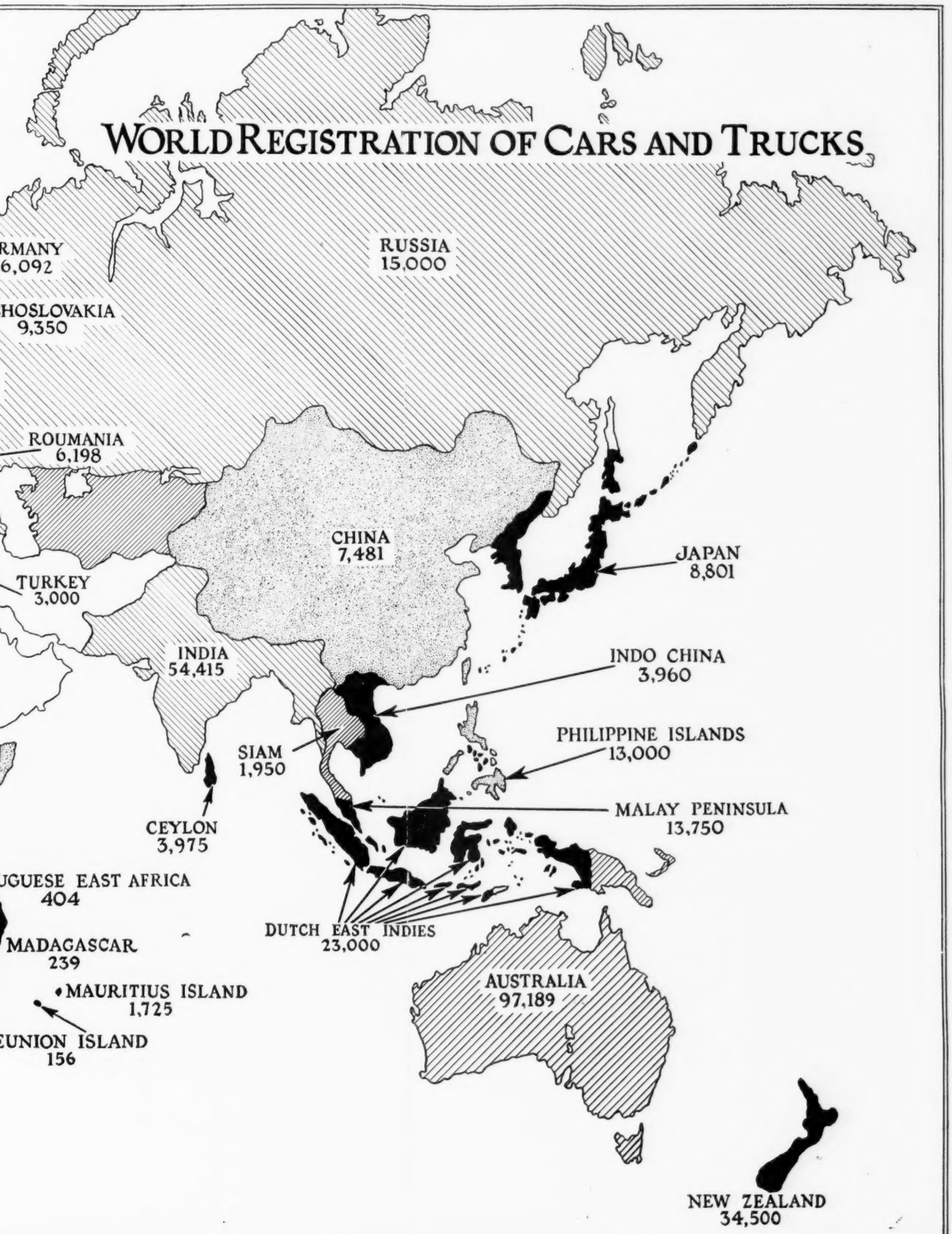
Motor vehicles in Belgium are registered only once, the license numbers being cumulative from year to year. To determine the actual number of vehicles now in operation, it has been necessary to make an estimate of the number of vehicles which have gone out of use. Commenting on the Belgian registration system, our correspondent states, "The license number is delivered only once, and has nothing to do with the payment of yearly taxes. The license is cancelled only by destruction, loss or death of the owner. If the owner disposes of the vehicle he returns the tag to the proper authorities for cancellation."

At least 80 per cent of the automobiles in use in Bulgaria are in Sofia, according to American Consul G. H. Kemper. There are in Bulgaria, Kemper states, a number of automobiles which were discarded after the war. These number several thousand, but would not be suitable for service unless entirely rebuilt and, consequently, should not be included in any estimate of the vehicles in use in Bulgaria.

Bulgarian roads are kept in reasonably good condition


ALASKA
336
DOMINION OF CANADA
487,099
NEW FOUNDLAND
594
HOLLAND
10,750
GREAT BRITAIN
554,443
BELGIUM
45,388
SWITZERLAND
21,000
FRANCE
290,303
AZORES
190
PORTUGAL
9,600
MADEIRA IS.
145
SPAIN
47,500
MOROCCO
2,550
CANARY IS.
1,200
ALGERIA
14,500
UNITED STATES
12,364,377
HAWAII
15,500
DOMINICAN REPUBLIC
1763
CUBA
25,000
PORTO RICO
7,000
GUATEMALA
550
BRITISH HONDURAS
100
COSTA RICA
225
BARBADOS
560
MEXICO
29,000
HONDURAS
200
TRINIDAD & TOBAGO
1,600
PANAMA
2,200
SALVADOR
500
JAMAICA
1,575
VENEZUELA
3,500
NICARAGUA
300
COLOMBIA
2,000
BR. FR. & DUTCH GUIANA
1,500
BRAZIL
27,500
ECUADOR
1,000
PERU
3,500
BOLIVIA
400
PARAGUAY
500
URUGUAY
13,500
CHILE
10,000
ARGENTINA
90,000


NORWAY
13,340
SWEDEN
29,478
DENMARK
20,100
HOLLAND
10,750
GERMANY
126,092
CZECHOSLOVA
9,350
GREAT BRITAIN
554,443
POLAND
13,000
NEW FOUNDLAND
594
BELGIUM
45,388
AUSTRIA
11,100
SWITZERLAND
21,000
FRANCE
290,303
ROUM
6,1
AZORES
190
PORTUGAL
9,600
MADEIRA IS.
145
SPAIN
47,500
TURKE
3,000
ICAN REPUBLIC
1763
MOROCCO
2,550
PORTO RICO
7,000
CANARY IS.
1,200
ALGERIA
14,500
TUNIS
2,355
EGYPT
4,878
ITALY
65,000
BARBADOS
560
TRINIDAD & TOBAGO
1,600
VENEZUELA
3,500
BR. FR. & DUTCH GUIANA
1,500
BRAZIL
27,500
GOLD COAST
1,401
PORTUGUESE E
404
MADAGA
239
ANGOLA
400
PARAGUAY
500
REUNION I
156
URUGUAY
13,500
UNION OF SOUTH AFRICA
35,500
ARGENTINA
90,000


WORLD REGISTRATION OF CARS AND TRUCKS
RMANY
6,092
RUSSIA
15,000
HOSLOVAKIA
9,350
ROUMANIA
6,198
CHINA
7,481
JAPAN
8,801
TURKEY
3,000
INDIA
54,415
INDO CHINA
3,960
PHILIPPINE ISLANDS
13,000
SIAM
1,950
MALAY PENINSULA
13,750
CEYLON
3,975
UGUESE EAST AFRICA
404
DUTCH EAST INDIES
23,000
MADAGASCAR
239
MAURITIUS ISLAND
1,725
EUNION ISLAND
156
AUSTRALIA
97,189
NEW ZEALAND
34,500

by compulsory labor service. In some sections of the country the roads are excellent. The comparatively small number of motor vehicles in use is due chiefly to the high cost of fuel and the generally unsatisfactory economic condition of the country. Fiat has made more sales in Bulgaria than any other manufacturer. Its organization in Bulgaria is better than that of any of its competitors although a few American, Austrian and German cars have been sold there during the last two years.

Estimates for Czechoslovakia vary from 6000 to 9350. The latter figure having been confirmed from more than one source, however, is apparently the most accurate.

No official figures are available regarding the number of automobiles in Italy. The figure of 65,000 given here is based upon reliable information from a number of sources. It may be a little high.

Conflicting reports have been obtained concerning the Netherlands. Car registration estimates vary from 8000 to 20,000, and motorcycle estimates from 18,000 to 25,000. It seems to be generally agreed that the trucks in use number about 2750. Both the Automotive Division of the Bureau of Foreign and Domestic Commerce and the General Motors Export Corporation estimate the number of cars at 20,000, and that figure has been used here.

Poland has also developed very confusing estimates. Car registration figures varying all the way from 2500 to 12,700 have been obtained. Careful analysis indicates that the figure of 2500 is far too low. The figures used in the accompanying table seem to be authentic, having been obtained from the Polish government through the Polish Automobile Club at Warsau.

Roumanian figures constitute an estimate based upon exact figures for a part of the country. Complete registration statistics of motor vehicles in that country are not available, although the Roumanian Ministry of the Interior is at present engaged in collecting data which will probably be completed in the near future. It is estimated by American Vice-Consul D. R. Heath that 20 per cent of the cars in Roumania are of American origin.

Swiss figures are based upon a reliable estimate made by the Automobile Club at Geneva.

EUROPE

Country	Date	Total Cars and Trucks	Cars	Trucks	Motor-cycles	Tractors
Austria	July, 1922	11,100	7,808	3,292	2,592	70
Azores	Nov. 1922	190	180	10	25	.....
Azerbaijan	July, 1922	160	125	35	25	10
Belgium	Nov. 1922	45,388	40,000	5,388	27,000	622
Bulgaria	Oct. 1922	670	521	149	50	.....
Czechoslovakia	Aug. 1922	9,350	7,750	1,600	1,998	80
Danzig	Dec. 1922	869	712	157	165	8
Denmark	Aug. 1922	20,100	15,900	4,200	13,000	.....
Esthonia	Aug. 1922	370	206	164	152	6
Finland	Aug. 1922	1,754	1,131	623	837	15
France	Jan. 1922	290,303	197,583	92,730	56,222	.....
Germany	July, 1922	126,092	82,505	43,587	37,941	343
Gibraltar	Jan. 1922	105	.....	.....	.....	.....
Georgia	Aug. 1922	360	200	160	150	5
Greece	Aug. 1922	3,450	2,700	750	360	400
Hungary	Nov. 1922	3,200	3,000	200	600	.....
Iceland & Faroe Is.	Jan. 1922	145	.....	.....	.....	.....
Italy	Jan. 1923	65,000	.....	.....	31,000	.....
Jugo-Slavia	Dec. 1922	2,200	2,000	200	100	5
Latvia	Aug. 1922	170	130	40	30	12
Lithuania	Sept. 1922	458	200	258	150	10
Malta, Gozo & Cyprus	Jan. 1922	410	295	115	204	.....
Netherlands	Jan. 1923	10,750	20,000	2,750	18,600	.....
Norway	Dec. 1922	13,340	9,638	3,702	6,652	.....
Poland	June, 1922	13,000	9,900	3,100	500	1,500
Portugal	Jan. 1923	9,600	9,000	600	1,000	.....
Roumania	Apr. 1922	6,198	4,220	1,978	328	250
Russia	Jan. 1923	15,000	.....	.....	.....	.....
Spain	Jan. 1923	47,500	40,000	7,500	5,000	300
Sweden	Sept. 1922	29,478	23,198	6,280	16,720	.....
Switzerland	Sept. 1922	21,000	15,500	5,500	9,800	50
United Kingdom	Aug. 1922	554,443	392,383	162,062	377,943	15,951
		1 302,153	886,785	347 130	609,144	19,637

Official statistics are not available in Jugoslavia, but estimates made by Consul K. S. Patton on the basis of information secured from private sources placed the total number of cars and trucks at 2,200.

Oceania

THE importance of Australia as an automotive market is well illustrated by the fact that the group of countries included in Oceania, despite their small area, have a larger motor vehicle registration than the whole of Asia. With a registration of 97,189, Australia shows a gain of 23,289 or 31½ per cent over last year. Australian figures are available in great detail.

Leading American exporters consider Australia to be one of the most promising markets for 1923. A continuance of 1922 buying is expected. Despite the high Australian duty on automobile bodies, several important American firms report an increasing number of complete cars being sold to the Commonwealth.

Accurate figures for Hawaii are given in the accompanying tables. The figure shown last year was too low by nearly 90 per cent.

Annual registration is not required in New Zealand. As long as an owner keeps his license paid up for any particular car it remains under the original number. If the car is sold or destroyed the original number is abandoned. Many old cars bear license numbers which are much higher than those on cars manufactured during the current year. The estimated figures of 30,000 cars and 4500 trucks used in the accompanying tabulation were made by Consul General D. F. Wilber.

New Zealand is not able to keep up with her need for good roads, Wilber states. The estimated total length of roads is 64,320 miles. According to some estimates, it would require over 100,000 miles of highways to properly serve the present population of 1,300,000. Various attempts have been made to legislate a state road building policy, but opposition of various kinds has prevented definite action thus far.

OCEANIA

Country	Date	Total Cars and Trucks	Cars	Trucks	Motor-cycles	Tractors
Australia	Nov. 1922	97,189	87,721	9,468	39,000	841
Hawaii	Oct. 1922	15,500	13,000	2,500	505	2
New Zealand	Dec. 1922	34,500	30,000	4,500	3,000	380
Total	.....	147,189	130,721	16,468	42,505	1,223

Africa

TOTAL automotive registrations in Africa have now climbed to 71,368. This records a gain of 15,536 over the figures published last year. Part of this gain, however, is apparent rather than actual, since statistics have been obtained this year from many places where they were not available before. This year registrations are given for 28 countries in Africa while last year information was recorded from only 17.

In a few countries, relatively unimportant from an automotive standpoint, such as Nigeria and Senegal, it has been impossible to obtain recent figures. Since automotive development in these areas is undoubtedly very slow, however, the figures given are probably not far from accurate.

The Union of South Africa is the most important automotive state in Africa. It has in operation 34,000 passenger cars, 1,500 trucks, 16,000 motorcycles and 1,200 tractors.

Next in importance ranks Algeria with 13,000 cars and 1,500 trucks. A recent report from Consul E. A. Dow states that French cars are usually preferred in Algeria, chiefly because French concerns have been able to maintain parts stocks to a greater extent than manufacturers of other countries. Italian cars have also entered the Algerian market, however, with some success. The French dominate the truck as well as the passenger car carket, but the Fiat truck has made some progress. Large and expensive cars are difficult to sell in Algeria because of the very limited number of wealthy people and the high cost of gasoline.

American Trade Commissioner P. J. Stevenson has furnished us not only with figures for the Union of South Africa, but also with data for Rhodesia, German Southwest Africa, Belgian Congo, Mauritius and Portuguese East Africa. The figures in each case are estimates brought up to date and checked by representatives of American firms selling automotive products in the various countries.

AFRICA

Country	Date	Total Cars and Trucks	Cars	Trucks	Motorcycles	Tractors
Algeria	Oct. 1922	14,500	13,000	1,500	.....	.....
Angola	Sept. 1922	400	270	130	50	.....
Belgian Kongo	Dec. 1922	240	175	65	260	.....
British East Africa	July, 1922	1,553	1,470	83	213	.....
Canary Islands	Oct. 1922	1,200	900	300	60	2
Egypt	Aug. 1922	4,878	4,563	315	1,394	.....
Fr. Equatorial Africa	June, 1922	36	21	15	11	.....
Gambia	Dec. 1922	47	41	6	7	.....
German East Africa	July, 1922	900	.....	.....	.....	.....
German S.W. Africa	Dec. 1922	370	360	10	50	.....
Gold Coast	Dec. 1922	1,401	247	1,154	344	.....
Ivory Coast	July, 1922	100	100	.....	.....	.....
Kamerun	Oct. 1922	.....	.....	.....	7	.....
Liberia	Sept. 1922	6	5	1	1	.....
Madagascar	Sept. 1922	239	4	55	262	3
Madeira Islands	Sept. 1922	145	118	27	79	.....
Mauritius	Oct. 1922	1,725	1,650	75	150	75
Morocco	July, 1921	2,550	2,150	400	1,000	.....
Nigeria	June, 1920	736	.....	.....	484	.....
Portuguese East Africa	Dec. 1922	404	240	164	51	5
Portugese Guinea	July, 1922	11	4	7	.....	.....
Rhodesia	Dec. 1922	1,400	1,400	.....	475	.....
Reunion Is.	Oct. 1922	156	148	8	13	.....
Senegal	June, 1920	420	240	180	10	.....
Seychelles	Oct. 1922	2	2	.....	6	.....
Sierra Leone	Aug. 1922	94	68	26	32	.....
Tunisia	Oct. 1922	2,355	2,113	242	361	596
Union South Africa	Dec. 1922	35,500	34,000	1,500	16,000	1,200
		71,368	63,469	6,263	21,320	1,881

Automotive development in the other African countries has been comparatively limited but some progress is shown in practically every area.

Asia

AUTOMOTIVE registration figures for Asia have been difficult to compile with accuracy. Rather complete data are available for some of the more important automotive countries such as India and Philippine Islands. India has the greatest motor vehicle registration in this group, 54,415 cars and trucks being in operation. Dutch East Indies ranks second with 23,000, Philippine Islands third with 13,000, and Japan fourth with 8801.

Motor vehicle figures for the entire Malay Peninsula have been combined because of the difficulty of separating them accurately into their component parts.

Both the Malay Peninsula and the Dutch East Indies offer good automotive prospects. Excellent highways run throughout the Dutch East Indies, and it is possible to travel nearly all over Java and Sumatra on good roads. The Malay Peninsula also has abundance of good roads.

Competition in the Dutch East Indies is reported to be keenest from the Italians, Fiat being the leading Italian make in the market. The French manufacturer, Citroen, however, is also strong.

Figures for Arabia are made up of definite data for a few important centers, and estimates for the rest of the country. The figures are probably quite accurate, however, since there are practically no roads at all in Arabia outside of Aden and a few other towns of some importance. No highway development is planned, according to Consul Raymond Davis.

There is some confusion in connection with the figures for India. Those given, however, are probably reliable for all practical purposes. American Consul General A. W. Weddell, commenting upon the method of registering motor vehicles in India, states that "the system of registration in India is highly unsatisfactory from the standpoint of accuracy, and not to be compared with the registration in the United States. In the majority of provinces in India motor cars are given consecutive numbers as registered, and these numbers are not changed annually, but are retained throughout the life of the car; no number plates are issued, the numerals merely being painted on the body of the car. When cars fall into disuse or are removed to another province, the police frequently are not informed, and in many places they have apparently no way of knowing the actual number of cars in their district. It appears that from some provinces the number

THIS complete census of automotive vehicles in use throughout the world has been made possible by the hearty and capable cooperation of many persons and organizations in every country. In discussing the accompanying article it has been possible to mention specifically only a very few of these. The assistance rendered by the others has been equally valuable.

American consuls have made strenuous efforts to procure detailed and authoritative information, and in many cases have sent us comprehensive marketing data in addition to the statistics requested. We hope to print more of this information in later issues. The Automotive Division of the Bureau of Foreign and Domestic Commerce has rendered valuable assistance at various times. Private automotive firms, chambers of commerce and automobile clubs have contributed freely both effort and information. Special foreign correspondents of Automotive Industries have obtained much data never before available. To each of the sources the automotive industry owes a debt of gratitude.

We take this opportunity to express our deepest and most sincere thanks to all those who have so ably contributed to this compilation in the interests of automotive transportation progress.

ASIA

Country	Date	Total Cars and Trucks	Cars	Trucks	Motor-cycles	Tractors
Arabia	Sept. 1922	400	372	28	90	.....
Ceylon	Sept. 1922	3,975	3,475	500	1,850	.....
China	April, 1922	7,481	6,984	497	791	.....
Chosen	Jan. 1922	785	750	35	40	2
Dutch East Indies	Aug. 1922	23,000	22,000	1,000	3,500	.....
French Indo China	Feb. 1922	3,960	3,860	100	.....	.....
Hongkong	Aug. 1922	595	573	22	329	.....
India	Sept. 1922	54,415	.....	.....	13,950	1,000
Japan	Mar. 1922	8,801	7,912	889	2,478	.....
Malay Peninsula	Dec. 1922	13,750	.....	.....	.....	.....
Mesopotamia	July, 1922	5,000	.....	.....	.....	.....
Palestine	Mar. 1922	800	700	100	100	.....
Persia	Nov. 1922	1,162	1,000	162	20	.....
Philippine Is	Jan. 1923	13,000	10,000	3,000	940	2,500
Siam	Dec. 1922	1,950	1,800	150	450	18
Syria	Sept. 1922	2,300	2,100	200	140	150
Turkey	.....	3,000	.....	.....	50	200
Formosa	Mar. 1922	105	75	30	10	.....
Total	.....	144,479	61,601	6,713	24,738	3,870

of vehicles reported to the Director of Statistics includes all that have been registered since automobile registration was first introduced, whereas the number reported for other provinces includes only the number actually in use as computed from the payments of annual taxes or fees upon motor cars."

Use of automotive vehicles in Siam is confined largely to Bangkok, although it would undoubtedly be much larger in Upper Siam and Siamese Malaya if good roads were available in the latter areas, according to American Consul M. P. Dunlap. Of the 1800 passenger cars in Siam, Dunlap estimates that there are about 200 north of Bangkok and about 125 in Siamese Malaya.

To determine the number of motor vehicles in Turkey at the present time is, of course, an almost impossible task. Reliable estimates place the number of automobiles in Constantinople and immediate neighborhood at 2380. Of this number 1180 are in civilian hands, and about 1200 are owned by the various troops in the region. Of the private automobiles some 380 are of American origin, while 270 were made in Italy, 150 in Austria, 120 in Germany, 120 in England, 90 in France, and 50 in Russia. The companies which have shown the greatest activity in this market are Fiat, Steyr, Ford, Chevrolet, Citroen, Berliet, Renault, and Peugeot.

Cars and Trucks in Spanish and Portuguese Speaking Countries

Argentina	90,000	Guatemala	550	Portugal	9,600
Bolivia	400	Honduras	200	Portuguese East Africa	404
Brazil	27,500	Mexico	29,000	Portuguese Guinea	11
Chile	10,000	Nicaragua	300	Salvador	500
Colombia	2,000	Panama	2,200	Spain	47,500
Costa Rica	225	Paraguay	500	Uruguay	13,500
Cuba	25,000	Peru	3,500	Venezuela	3,500
Dominican Republic	1,763	Philippine Islands	13,000		
Ecuador	1,000	Porto Rico	7,000		289,153

Final Registration Figure for U. S. 12,364,377 Cars and Trucks

Gain of 1,858,747 over 1921 is 17.9 per cent. One motor vehicle for every 8.84 persons in country. Fees paid total $151,384,745. California climbs to second place, passing Ohio. Motorcycles in operation decrease. Future markets predicted by trend studies.

FINAL revised motor vehicle registration figures for the United States show a total of 12,364,377 cars and trucks in operation. Of this number about 10,857,000 are passenger cars and about 1,507,000 are trucks. The segregated car and truck figures are only approximate, however, as entirely accurate data are not available. There is one car for every 8.84 persons in the country.

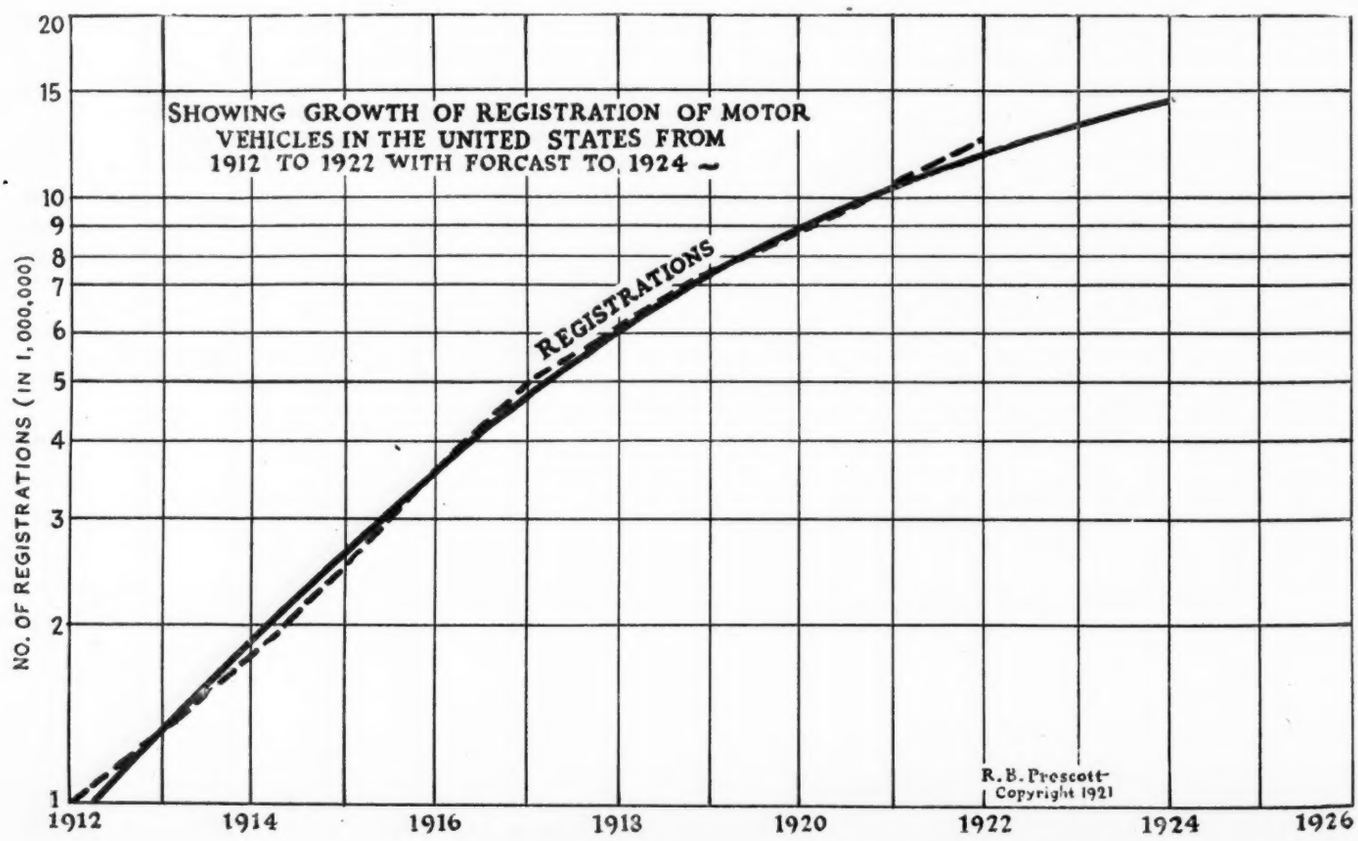
A gain of 1,858,747, or 17.9 per cent, is recorded over the 1921 total. Every state contributed to the increase. Fees paid by motorists amounted to $151,384,745, a gain of some $30,000,000 over the previous year. Motorcycle registration has dropped again, the 1922 total being 193,495 as compared with 207,930 for 1921.

These figures show no radical change from the preliminary data published in Automotive Industries of January 11. Perhaps the most important difference is the advance of California to second place in total registration. The final figures show that it has pushed Ohio out of the position behind New York, which Ohio has held for many years.

New York still leads the list with a registration of 1,002,293, while its actual gain of 190,262 was the largest to be recorded. District of Columbia made the greatest percentage gain, with 38.37, followed by Arkansas and California with 28.14 and 27.92, respectively.

Despite the unexpectedly large increase in car and truck registration during 1922, the predictions made by Automotive Industries at the beginning of the year came within 3½ per cent of being accurate for the country as a whole.

An accompanying table shows the prediction made at the beginning of last year as compared with the actual registrations compiled at the end of the year. The territorial prediction for the West North Central farm states was 16 per cent too high, but in all but two out of nine



geographical divisions the percentage of variation was less than 10 per cent. The variation in the farm states reflects the subnormal buying of the farmer during 1922.

Predictions Based on Normal Trend

It should be understood that these predictions are made on the basis of a normal trend. Variations from that normal may be expected as business conditions change from time to time in various parts of the country. These variations may be interpreted as measures of economic fluctuation in the territories involved.

This comparison of predictions and results shows how a study of trends can be used in making market studies and judging future sales possibilities. While the trend predictions involve certain variables, they do give a much closer approximation of probable future occurrences than is likely to be obtained from a less specific study. In every case, however, statistical phases of the trend study have been correlated with current economic and business conditions in making the various predictions.

The percentage of registration by states constitutes another valuable trend survey. The accompanying table showing the percentage distribution of motor vehicles by States is printed for the first time.

It shows that there is little variation from year to year in the percentage of total registration possessed by any given State. Michigan gives a good example. The percentage of total registration possessed by that State has not varied more than 8 per cent in 11 years. New York has varied less than 4 per cent, California less than 5 per cent, and Texas less than 3 per cent. These States are typical.

It is logical to assume on this basis that the approximate registration for each State during the coming year can be determined within 10 per cent by applying to the total registration prediction figure the percentage indicated for any particular State.

Each year there is a noticeable increase in the quantity and quality of registration data available for market analysis work. Much of these data has been privately developed, but better figures are being put out by the various States as well.

In all but five States segregated car and truck figures now are available. Separate motorcycle figures are compiled in every State. Many States have begun to publish county registrations, thus giving to the industry market analysis material of considerable value. Fourteen states now publish registrations by counties, according to a survey just completed by AUTOMOTIVE INDUSTRIES. These states are: Alabama, Arizona, California, Georgia, Idaho, Indiana, Kansas, Nebraska, New Hampshire, New York, Oregon, South Dakota, Texas, and Washington.

Lack of standardization in state registration practice, however, still makes it hard to interpret some of the data. The definition of a truck or commercial vehicle varies from state to state. Some states even classify all pneumatic-tired vehicles together, thus rendering the solid-tired vehicle figures practically useless as a truck figure. Varying classifications of tractors and trailers complicate the situation further, so that the segregated car and truck figures are by no means accurate.

Motorcycle manufacturers did not profit by the boom in domestic business during 1922 as did the car and truck builders. Registrations for the two-wheeled vehicles took another drop, as they did in two previous years.

The American motorist continues to pay an increasing sum for the operation of his vehicle. While registrations increased 17.9 per cent last year, fees paid by motorists

Registration of Motor Vehicles

States	Total Registration of Cars and Trucks	Passenger Cars	Trucks	Motorcycles	Total Fees
Alabama	90,052	80,183	9,869	638	$1,201,566
Arizona	38,034	.....	.....	425	216,958
Arkansas	86,425	78,425	8,000	237	998,531
California	861,805	822,394	39,411	16,300	8,384,606
Colorado	162,328	151,499	10,829	2,770	991,677
Connecticut	154,675	128,629	26,046	4,386	3,567,744
Delaware	24,560	.....	.....	427	426,377
District of Columbia	85,425	76,593	8,832	2,494	367,773
Florida	115,891	96,842	19,049	1,456	1,538,342
Georgia	145,584	128,654	16,930	1,000	1,831,541
Idaho	53,874	49,393	4,481	703	819,291
Illinois	786,190	686,466	99,724	8,156	7,882,482
Indiana	469,939	413,410	56,529	6,598	3,000,000
Iowa	500,148	468,736	31,412	3,569	7,923,388
Kansas	327,194	303,725	23,469	2,315	165,738
Kentucky	154,021	136,627	17,394	1,042	2,138,908
Louisiana	102,284	87,003	15,281	509	1,756,226
Maine	92,539	78,697	13,842	1,321	1,500,000
Maryland	165,624	153,748	11,876	7,579	2,824,843
Massachusetts	449,838	378,839	70,999	11,675	5,685,527
Michigan	578,980	518,558	60,422	5,163	7,807,145
Minnesota	380,557	341,322	39,235	3,240	6,488,593
Mississippi	77,001	70,430	6,571	109	3,016,000
Missouri	392,969	353,375	39,594	2,792	3,512,183
Montana	62,649	55,681	6,968	397	620,873
Nebraska	256,654	233,658	22,996	1,856	3,031,699
Nevada	12,647	10,000	2,647	112	120,937
New Hampshire	48,293	42,157	6,136	1,880	1,246,229
New Jersey	341,626	257,880	83,746	9,284	6,475,000
New Mexico	25,473	.....	.....	163	350,000
New York	1,002,293	781,070	221,223	25,175	12,766,364
North Carolina	182,550	163,600	18,950	1,190	2,826,075
North Dakota	99,052	96,080	2,972	766	699,000
Ohio	859,504	740,430	119,074	21,246	7,888,108
Oklahoma	249,659	.....	.....	952	2,729,169
Oregon	134,229	118,731	15,498	3,206	3,340,516
Pennsylvania	829,737	691,237	138,500	20,159	12,575,380
Rhode Island	66,466	53,455	13,011	1,459	1,139,742
South Carolina	95,978	88,400	7,578	605	741,714
South Dakota	125,238	116,141	9,097	660	807,960
Tennessee	135,716	119,319	16,397	861	1,589,824
Texas	526,238	.....	.....	3,410	4,261,488
Utah	49,156	41,935	7,221	725	749,272
Vermont	43,881	41,241	2,640	856	781,982
Virginia	169,000	146,000	23,000	2,200	2,900,000
Washington	220,957	189,016	31,941	3,846	3,291,671
West Virginia	112,763	.....	.....	1,361	1,936,079
Wisconsin	388,044	361,222	26,822	5,918	4,153,375
Wyoming	30,637	27,410	3,227	304	316,849
Total	12,364,377	9,978,211	1,409,439	193,495	$151,384,745

Cars and Trucks in the United States, Dec. 31, 1922

New York	1,002,293
California	861,805
Ohio	859,504
Pennsylvania	829,737
Illinois	786,190
Michigan	578,980
Texas	526,238
Iowa	500,148
Indiana	469,939
Massachusetts	449,838
Missouri	392,969
Wisconsin	388,044
Minnesota	380,557
New Jersey	341,626
Kansas	327,194
Nebraska	256,654
Oklahoma	249,659
Washington	220,957
North Carolina	182,550
Virginia	169,000
Maryland	165,624
Colorado	162,328
Connecticut	154,675
Kentucky	154,021
Georgia	145,584
Tennessee	135,716
Oregon	134,229
South Dakota	125,238
Florida	115,891
West Virginia	112,763
Louisiana	102,284
North Dakota	99,052
South Carolina	95,978
Maine	92,539
Alabama	90,052
Arkansas	86,425
District of Columbia	85,425
Mississippi	77,001
Rhode Island	66,466
Montana	62,649
Idaho	53,874
Utah	49,156
New Hampshire	48,293
Vermont	43,881
Arizona	38,034
Wyoming	30,637
New Mexico	25,473
Delaware	24,560
Nevada	12,647
	12,364,377

Gain in Car and Truck Registration, 1921-1922

New York	190,262
California	187,975
Pennsylvania	140,148
Ohio	138,872
Illinois	115,756
Michigan	101,943
Massachusetts	89,106
Indiana	69,597
New Jersey	68,632
Texas	58,622
Minnesota	51,857
Missouri	46,532
Wisconsin	46,203
Iowa	39,620
Kansas	35,885
Washington	35,598
North Carolina	33,866
Oklahoma	28,359
Virginia	28,000
Kentucky	27,650
Maryland	25,052
District of Columbia	23,680
Louisiana	21,784
Arkansas	18,979
West Virginia	18,869
Tennessee	18,691
Florida	18,054
Nebraska	17,950
Connecticut	17,149
Colorado	16,589
Oregon	15,904
Maine	15,012
Georgia	13,642
Mississippi	11,862
Rhode Island	11,509
Alabama	7,709
Vermont	6,916
North Dakota	6,408
New Hampshire	6,254
South Dakota	5,964
South Carolina	5,432
Wyoming	4,018
Montana	3,864
Delaware	3,147
Arizona	2,985
Idaho	2,610
Nevada	1,828
Utah	1,633
New Mexico	770
	1,858,747

Persons Per Motor Vehicle, Dec. 31, 1922

California	4.29
Iowa	4.90
Nebraska	4.97
District of Columbia	5.12
South Dakota	5.19
Kansas	5.47
Colorado	6.01
Oregon	6.05
Nevada	6.12
Indiana	6.36
Washington	6.39
Minnesota	6.48
North Dakota	6.65
Michigan	6.71
Wyoming	6.75
Wisconsin	6.98
Ohio	7.00
Vermont	8.03
Maine	8.37
Oklahoma	8.52
Idaho	8.53
Illinois	8.53
Missouri	8.74
Florida	8.83
Massachusetts	8.84
Maryland	9.00
Texas	9.24
New Hampshire	9.25
Delaware	9.30
Rhode Island	9.33
Connecticut	9.38
Montana	9.47
Utah	9.54
Arizona	9.67
New Jersey	9.71
New York	10.68
Pennsylvania	10.83
West Virginia	13.53
Virginia	14.03
New Mexico	14.48
North Carolina	14.52
Kentucky	15.89
Tennessee	17.51
Louisiana	17.95
South Carolina	18.00
Arkansas	20.80
Georgia	20.80
Mississippi	23.25
Alabama	26.68
U. S.	8.84

increased about 24 per cent. This indicates that taxes per vehicle are higher than before.

Two facts stand out from the analysis of registrations this year: First, total motor vehicle registration for the United States can be predicted with a reasonable degree of accuracy, so far as practical business needs are concerned. This is highly important in connection with current market studies being made by various companies.

COMPARISON OF ACTUAL REGISTRATION DECEMBER 31, 1922, WITH NORMAL FORECAST MADE BY AUTOMOTIVE INDUSTRIES ONE YEAR AGO

	Actual Registration	Normal Forecast	Actual Difference Between Forecast and Actual	Percentage Difference Between Forecast and Actual
United States	12,357,000	11,930,000	Plus 427,000	Plus .035
Upper New England	184,000	173,000	Plus 11,000	Plus .060
Lower New England	672,000	611,000	Plus 61,000	Plus .091
Middle Atlantic	2,168,000	1,965,000	Plus 203,000	Plus .094
East North Central	3,086,000	2,895,000	Plus 191,000	Plus .062
West North Central	2,080,000	2,414,000	Minus 334,000	Minus .160
South Atlantic	1,094,000	1,150,000	Minus 56,000	Minus .051
East South Central	455,000	469,000	Plus 14,000	Plus .032
West South Central	962,000	1,068,000	Minus 106,000	Minus .110
Mountain	435,000	581,000	Minus 146,000	Minus .034
Pacific	1,221,000	1,319,000	Minus 98,000	Minus .080

Percentage Gains in Registration, 1921-1922

	Per Cent		Per Cent		Per Cent
District of Columbia	38.37	Vermont	18.71	Connecticut	12.47
Arkansas	28.14	Mississippi	18.17	Kansas	12.32
California	27.92	Florida	18.05	Colorado	11.38
Louisiana	27.08	Maryland	17.82	Georgia	10.34
New Jersey	25.13	Indiana	17.38	Alabama	9.36
Massachusetts	24.71	Illinois	17.28	Iowa	8.61
New York	23.42	Nevada	16.92	Arizona	8.52
North Carolina	22.78	Tennessee	15.97	Nebraska	7.52
Kentucky	21.89	Minnesota	15.77	North Dakota	6.92
Michigan	21.37	Wyoming	15.10	Montana	6.58
Rhode Island	20.94	New Hampshire	14.88	South Carolina	6.00
Pennsylvania	20.32	Delaware	14.69	Idaho	5.09
West Virginia	20.20	Wisconsin	13.51	South Dakota	5.00
Virginia	19.85	Oregon	13.44	Utah	3.44
Maine	19.35	Missouri	13.43	New Mexico	3.14
Ohio	19.25	Oklahoma	12.81		
Washington	19.20	Texas	12.53	Gain U. S.	17.9

Percentage of Distribution of Registration by States

	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
Alabama	.003	.004	.004	.005	.006	.006	.008	.008	.008	.008	.007
Arizona	.002	.002	.003	.003	.006	.004	.004	.004	.004	.003	.003
Arkansas	.002	.002	.003	.003	.004	.006	.007	.007	.007	.006	.007
California	.080	.048	.070	.066	.065	.061	.060	.063	.062	.064	.068
Colorado	.008	.011	.010	.011	.012	.013	.014	.014	.013	.014	.013
Connecticut	.024	.022	.019	.018	.017	.017	.015	.014	.013	.013	.013
Delaware	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
District of Columbia	.002	.002	.003	.003	.004	.003	.005	.005	.004	.006	.007
Florida	.002	.002	.002	.004	.006	.005	.009	.007	.008	.009	.009
Georgia	.019	.015	.012	.010	.013	.014	.016	.017	.016	.013	.012
Idaho	.002	.002	.002	.003	.004	.005	.005	.006	.006	.005	.004
Illinois	.067	.076	.074	.073	.069	.068	.064	.063	.062	.064	.064
Indiana	.053	.038	.038	.039	.039	.039	.037	.036	.036	.038	.038
Iowa	.047	.060	.063	.061	.055	.051	.046	.048	.047	.044	.040
Kansas	.022	.027	.028	.029	.031	.032	.031	.030	.029	.028	.026
Kentucky	.005	.006	.007	.008	.009	.009	.011	.012	.012	.012	.012
Louisiana	.007	.006	.007	.004	.005	.006	.006	.007	.007	.008	.008
Maine	.008	.008	.009	.009	.009	.008	.007	.007	.007	.007	.007
Maryland	.010	.011	.011	.012	.012	.012	.012	.012	.013	.013	.013
Massachusetts	.050	.050	.044	.041	.038	.035	.032	.033	.033	.034	.036
Michigan	.039	.044	.043	.046	.045	.049	.043	.043	.045	.045	.047
Minnesota	.029	.030	.038	.037	.013	.011	.033	.034	.034	.031	.031
Mississippi	.003	.002	.003	.004	.007	.007	.008	.006	.007	.006	.006
Missouri	.024	.031	.031	.031	.029	.030	.031	.032	.032	.033	.032
Montana	.002	.005	.006	.006	.007	.009	.008	.008	.007	.006	.005
Nebraska	.033	.021	.023	.024	.028	.030	.029	.025	.024	.023	.021
Nevada	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
New Hampshire	.006	.006	.005	.005	.005	.004	.004	.004	.004	.004	.004
New Jersey	.043	.039	.034	.031	.029	.027	.025	.025	.025	.026	.027
New Mexico	.001	.001	.002	.002	.002	.002	.002	.002	.002	.002	.002
New York	.106	.108	.096	.094	.089	.082	.076	.075	.073	.077	.081
North Carolina	.006	.008	.008	.008	.009	.011	.012	.014	.015	.014	.015
North Dakota	.009	.010	.009	.010	.011	.013	.012	.011	.010	.009	.008
Ohio	.062	.069	.069	.073	.070	.069	.068	.067	.067	.069	.070
Oklahoma	.006	.006	.008	.010	.015	.020	.020	.019	.022	.021	.020
Oregon	.010	.011	.009	.009	.009	.010	.010	.011	.011	.011	.011
Pennsylvania	.059	.061	.064	.064	.064	.065	.065	.063	.062	.066	.067
Rhode Island	.008	.008	.007	.006	.006	.007	.006	.006	.005	.005	.005
South Carolina	.010	.009	.008	.006	.005	.008	.009	.009	.010	.009	.008
South Dakota	.014	.012	.012	.012	.012	.013	.015	.014	.013	.011	.010
Tennessee	.012	.012	.011	.009	.008	.010	.010	.010	.011	.011	.011
Texas	.035	.044	.037	.036	.055	.043	.041	.044	.046	.044	.043
Utah	.003	.003	.001	.004	.004	.005	.005	.005	.005	.005	.004
Vermont	.004	.005	.005	.005	.004	.004	.004	.004	.003	.004	.004
Virginia	.006	.007	.008	.009	.010	.011	.012	.012	.015	.013	.014
Washington	.014	.019	.017	.016	.017	.018	.019	.020	.019	.018	.020
West Virginia	.005	.004	.003	.005	.006	.006	.006	.007	.009	.009	.009
Wisconsin	.022	.028	.030	.032	.032	.033	.032	.031	.032	.033	.031
Wyoming	.001	.001	.001	.001	.002	.003	.003	.003	.002	.003	.002

MOTORCYCLE REGISTRATIONS—1918 TO 1922

	1918	1919	1920	1921	1922		1918	1919	1920	1921	1922
Ala.	1,180	1,103	1,035	805	638	Nev.	121	125	141	130	112
Ariz. ...	685	596	542	440	425	N. H. ...	2,452	2,632	2,542	2,358	1,880
Ark.	**	**	**	192	237	N. J. ...	12,517	11,416	11,041	9,724	9,284
Cal.	27,887	28,028	20,047	17,603	16,300	N. M. ...	300	200	219	214	163
Colo. ...	3,909	3,636	3,364	2,868	2,770	N. Y. ...	28,597	28,561	29,453	26,998	25,175
Conn. ..	4,246	4,495	6,543	5,589	4,386	N. C. ...	1,333*	1,459	1,418	1,276	1,190
Del.	707	699	674	541	427	N. D. ...	1,659	901	898	810	766
D. C. ...	2,353	2,412	519	2,487	2,494	Ohio ...	20,717	20,444	26,956	23,026	21,246
Fla.	1,629	1,412	1,275	1,296	1,456	Okla. ...	1,622	1,310	1,320	1,013	952
Ga.	1,681	1,722	1,688	1,338	1,000	Ore.	3,501	3,570	3,516	3,164	3,206
Idaho ...	707	731	764	744	703	Pa.	26,621	25,760	23,981	21,111	20,159
Ill.	10,834	10,920	10,597	7,104	8,156	R. I.	1,464	2,301	2,225	1,780	1,459
Ind.	9,112	8,995	8,823	7,524	6,598	S. C.	1,147	869	908	756	605
Iowa ...	2,529	3,035	4,000*	3,897	3,569	S. D. ...	1,323	888	777	682	660
Kan. ...	4,173	3,589	2,972	2,271	2,315	Tenn. ...	800	1,133	1,151	1,043	861
Ky.	1,479	1,503	1,543	1,185	1,042	Texas ..	2,496	3,990	4,293	3,905	3,410
La.	399	490*	500	498	509	Utah ...	1,298	1,185	1,114	909	725
Me.	1,497	1,608	1,566	1,525	1,321	Vt.	734	800	946	965	856
Md.	5,351	5,872	7,332	7,847	7,579	Va.	2,414	2,520	2,233	2,200	2,200
Mass. ..	12,862	13,698	15,143	12,048	11,675	Wash. ..	6,317	5,050	4,915	3,763	3,846
Mich. ...	7,818	7,875	8,011	6,195	5,163	W. Va. ..	847	994	1,659	1,539	1,361
Minn. ..	5,021	6,389	1,158	3,500	3,240	Wis.	7,238	7,223	8,002	6,423	5,918
Miss. ...	100*	120*	194	375	109	Wyo. ...	313	353	327	322	304
Mo.	3,980	4,131	3,954	3,609	2,792	Total..	239,722	240,090	234,954	207,930	193,495
Mont. ...	852	847	675	472	397						
Neb. ...	2,900	2,500	2,000	1,866	1,855						

*Estimated. **Not segregated.

Second, the percentage of total registration possessed by each State varies but little from year to year.

State legislatures are meeting throughout the country and there is every evidence that the motor vehicle will play an important part in many legislative sessions. The vehicle taxes paid by car owners is only a small part of the total contribution made by the automotive industry to State and national budgets. Many States have imposed gasoline taxes which exact a heavy toll from drivers. In addition to these special taxes as motor vehicle owners, the drivers pay all the ordinary citizen taxes.

The heavy special taxes paid by automotive manufacturers must also be considered in any discussion of the automotive contribution to government treasuries. The vehicle tax figures shown in the accompanying table are but a small part of that gross total.

The substitution of a fuel tax for the customary and almost universal tax based on horsepower rating continues to be agitated. Sponsors for this new form of tax levy believe that the present system is far from just in that the users of the public highways do not pay in proportion to the service received.

Motor Vehicle Registration 1912 to 1922

	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
Alabama	3,385	5,435	8,078	11,925	21,636	32,873	46,171	58,898	74,637	82,343	90,052
Arizona	1,624	3,098	5,040	7,318	12,124	19,890	23,905	28,979	34,559	35,049	38,034
Arkansas	2,250	3,000	5,642	8,021	15,000	28,693	41,458	49,450	59,082	67,446	86,425
California	88,699	60,000	123,516	163,795	232,440	306,916	364,800	477,450	568,892	673,830	861,805
Colorado	8,950	13,135	17,756	27,568	43,296	66,850	83,630	104,865	128,951	145,739	162,328
Connecticut	24,101	27,189	33,009	43,985	61,855	85,724	92,605	109,651	119,134	137,526	154,675
Delaware	1,732	2,350	3,050	4,657	7,102	10,700	12,955	16,152	18,300	21,413	24,560
Dist. of Columbia.	1,732	2,373	4,833	8,009	13,118	15,493	30,490	35,400	39,712	61,745	85,425
Florida	1,749	2,372	3,368	10,850	20,718	27,000	54,186	55,400	73,914	97,837	115,891
Georgia	19,120	18,500	20,916	25,671	47,579	70,357	99,800	127,326	144,422	131,942	145,584
Idaho	2,500	2,173	3,346	7,071	12,999	24,731	32,289	42,220	50,873	51,264	53,874
Illinois	68,073	94,656	131,140	180,832	248,429	340,292	389,620	478,438	568,759	670,434	786,190
Indiana	54,334	47,000	66,400	96,915	139,317	192,192	227,160	277,255	332,707	400,342	469,939
Iowa	47,188	75,083	112,134	152,134	198,602	254,317	278,313	363,857	437,300	460,528	500,148
Kansas	22,000	34,366	49,374	72,520	112,122	159,343	189,163	227,752	265,296	291,309	327,194
Kentucky	5,147	7,210	11,746	19,500	31,700	47,416	65,870	90,641	112,685	126,371	154,021
Louisiana	7,000	7,200	12,000	11,380	17,000	28,394	40,000	51,000	66,000	80,500	102,284
Maine	7,743	10,570	15,700	21,545	30,972	41,499	40,372	53,425	62,907	77,527	92,529
Maryland	10,487	14,254	20,213	31,047	44,245	60,943	74,666	95,634	116,341	140,572	165,624
Massachusetts ...	50,132	62,660	77,246	102,633	136,809	174,274	193,497	247,183	304,631	360,732	449,838
Michigan	39,579	54,366	76,389	114,845	160,052	247,006	262,125	325,813	412,717	477,037	578,980
Minnesota	29,000	37,800	67,862	93,269	46,000	54,009	204,458	259,743	309,569	328,700	380,567
Mississippi	2,895	3,000	5,964	9,669	25,000	36,600	48,400	45,030	63,484	65,139	77,001
Missouri	24,379	38,140	54,468	76,462	103,587	147,528	188,040	244,363	296,919	346,437	392,969
Montana	2,000	5,686	10,172	14,499	24,440	42,696	51,037	59,325	60,646	58,785	62,649
Nebraska	33,861	25,617	40,929	59,140	100,534	148,101	175,409	192,000	223,000	238,704	256,654
Nevada	900	1,131	1,487	2,009	4,919	7,160	8,159	9,305	10,464	10,819	12,647
New Hampshire..	5,764	7,420	9,571	13,499	17,508	22,267	24,817	31,625	34,680	42,039	48,293
New Jersey.....	43,056	48,892	60,247	78,232	104,341	134,964	155,519	190,873	227,737	272,994	341,626
New Mexico.....	911	1,721	2,945	5,100	8,228	8,457	15,000	18,077	22,109	24,703	25,473
New York.....	107,262	134,405	169,966	234,032	317,866	411,567	463,758	571,662	669,290	812,031	1,002,293
North Carolina...	6,178	10,000	14,677	21,000	33,904	55,950	72,313	109,017	140,860	148,684	182,550
North Dakota....	8,997	13,075	15,701	24,908	40,446	62,993	71,627	82,885	90,840	92,644	99,052
Ohio	63,066	86,054	122,504	181,332	252,431	346,772	412,775	511,031	615,397	720,632	859,504
Oklahoma	6,524	7,934	13,500	25,032	52,718	100,199	121,500	144,500	204,300	221,300	249,659
Oregon	10,165	13,957	16,447	23,585	33,917	48,632	63,324	83,332	103,790	118,325	134,229
Pennsylvania	59,357	76,178	112,854	160,137	230,578	325,153	394,186	482,117	570,164	689,589	829,737
Rhode Island.....	8,565	10,294	12,331	16,362	21,406	37,046	36,218	44,833	50,375	54,957	66,466
South Carolina...	10,000	11,500	14,500	15,000	19,000	39,527	55,492	70,143	92,818	90,546	95,978
South Dakota....	14,481	14,578	20,929	28,784	44,271	67,158	90,521	104,628	120,395	119,274	125,238
Tennessee	12,490	14,860	19,769	22,738	30,000	48,000	63,000	80,422	101,852	117,025	135,716
Texas	35,187	54,362	64,732	90,000	197,687	213,334	251,118	331,310	427,693	467,616	526,238
Utah	2,576	4,021	2,253	9,177	13,507	24,076	32,273	35,236	42,578	47,523	49,156
Vermont	4,283	5,918	8,256	11,499	15,671	20,369	22,655	26,807	31,625	36,965	43,881
Virginia	5,760	9,022	14,002	21,357	35,426	55,000	72,228	94,120	134,000	141,000	169,000
Washington	13,990	24,178	30,253	38,823	60,734	91,337	117,278	148,775	*173,920	185,359	220,957
West Virginia....	5,349	5,088	6,159	13,279	20,571	31,300	38,750	50,203	78,862	93,894	112,761
Wisconsin	24,578	34,646	53,161	79,791	115,637	164,531	196,844	236,981	293,298	341,841	388,044
Wyoming	1,300	1,584	2,428	3,976	7,125	12,523	16,200	21,371	23,926	26,619	30,637
Totals.....	1,010,399	1,248,056	1,768,963	2,494,912	3,584,567	4,992,152	6,105,974	7,596,503	9,206,510	10,505,630	12,364,377

American Passenger Car Chassis Design Shows Refinement of Detail

Six-cylinder models increase with corresponding decrease in fours. Semi-floating type rear axle makes big gain. Multiple-disk clutch leads over single-plate type. Chain driven camshafts in greater favor. Number of different makes declines.

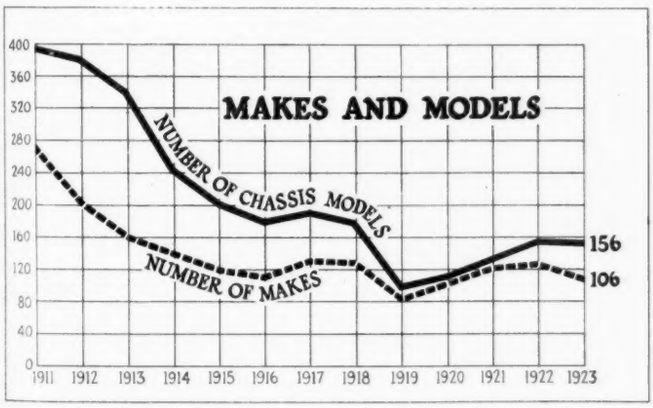
A SURVEY of American passenger car specifications for the year 1923 reveals no fundamental changes. Radical changes in design would hardly be expected with production around the two million mark, and such changes in design as are noted are chiefly in line with trends which were obvious several years ago. Chassis design has reached the place where trend lines flatten out and look for the most part as if they would stay that way for some time to come.

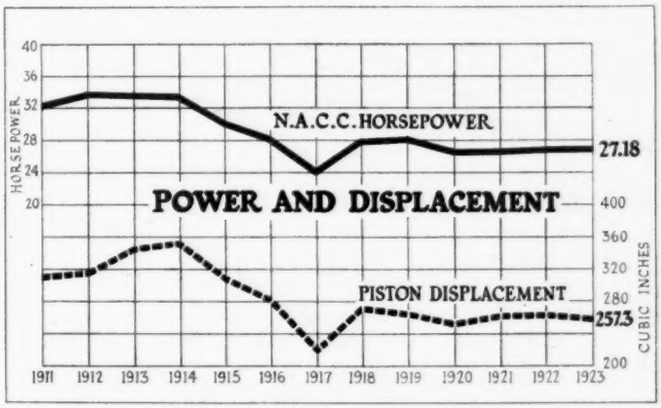
The accompanying charts show the yearly changes in certain specific elements of design. The percentages given are based upon the number of different models using the particular type of construction in question and do not have any reference to the number of cars produced with that construction. This explanation should be borne in mind when studying the charts.

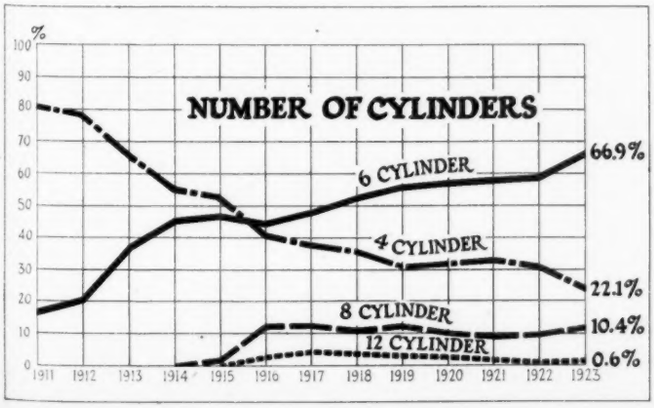
The figures do show in how great favor the various elements of design are held by American passenger car manufacturers, and therefore may be said to represent a vote of the industry as a whole.

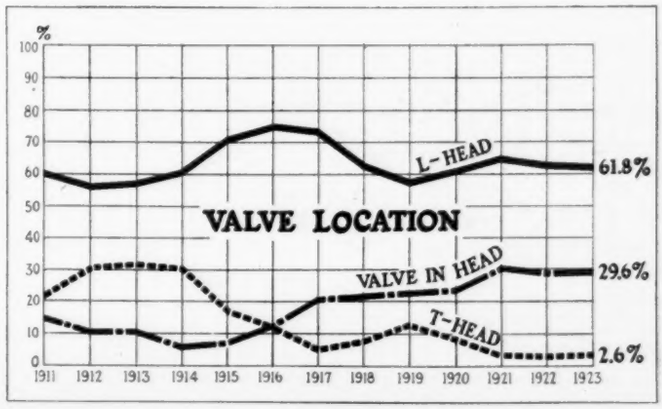
This year there are 106 makes and 156 models listed, as against 123 makes and 159 models last year. With the decrease in number of makes a corresponding decrease in number of models might be expected, but the number has remained approximately the same. This may be explained by the fact that several manufacturers of four-cylinder cars have added six-cylinder models to their lines and by the fact that a complete compilation of models with varying wheelbase lengths is given.

Data show that the percentage of six-cylinder models has increased from 59.1 per cent to 66.9 per cent, making a greater gain than at any time in the last four years. As the percentage of eight and twelve cylinder models remains practically the same, the gain made by the sixes is at the expense of the fours, which have decreased from 30.8 per cent to 22.1 per cent. As mentioned before, the

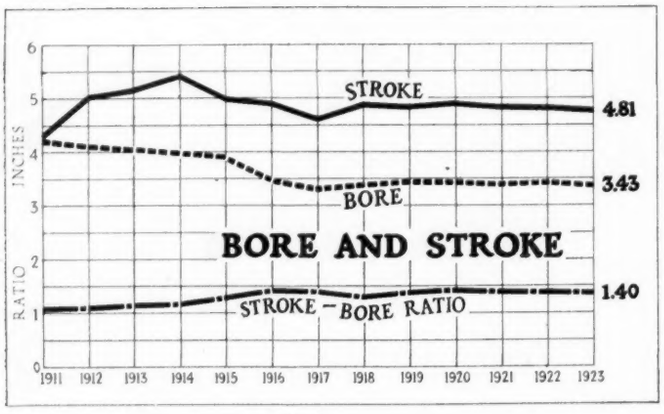


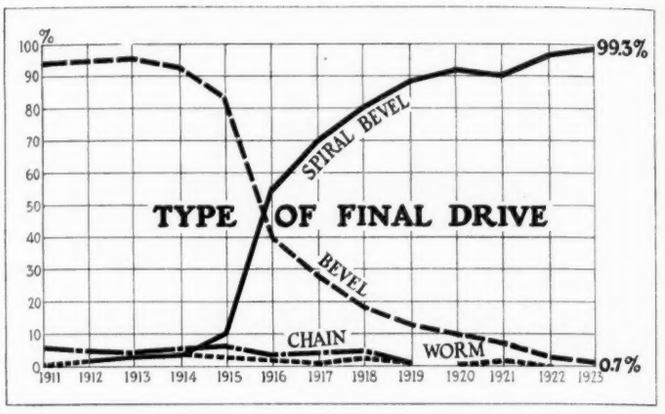


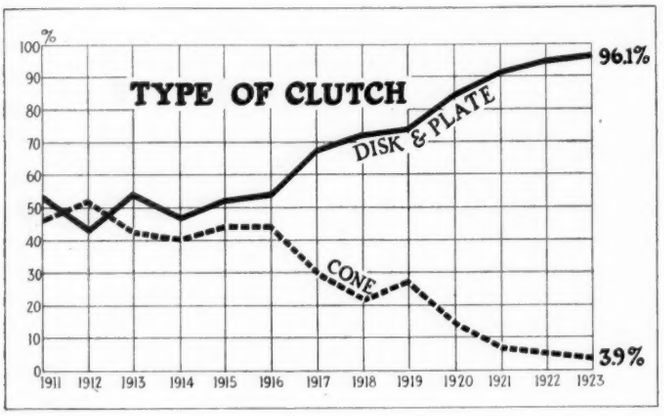


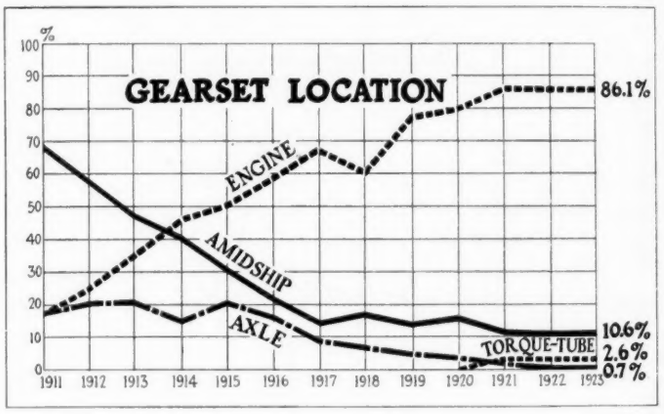


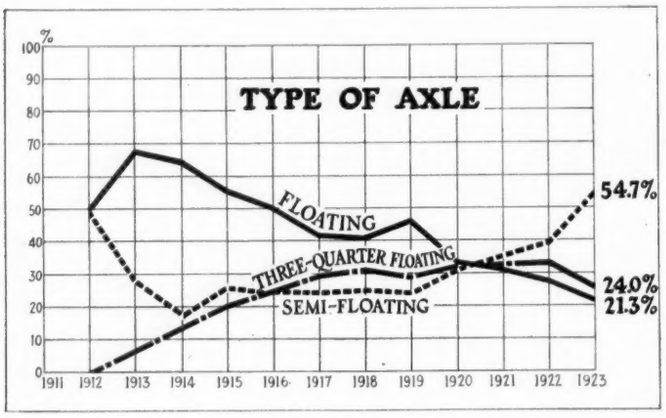
Tendencies in Passenger Car Chassis Design 1911-1923

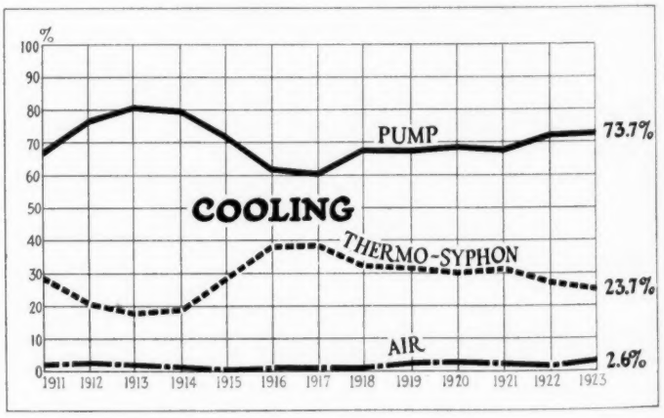


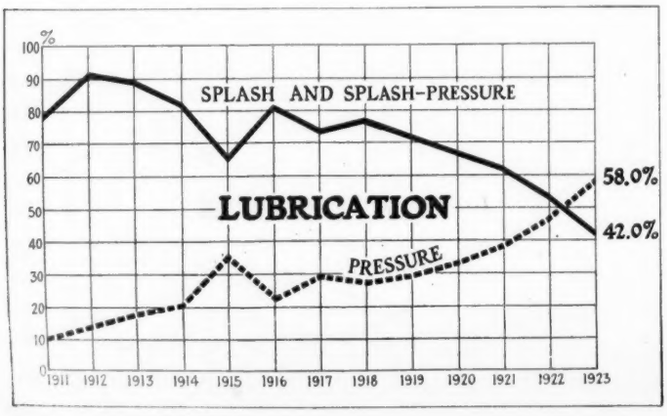


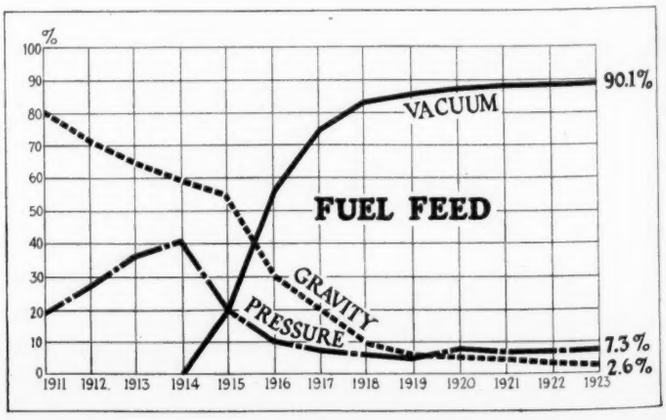












percentage figure is based upon the number of models employing the element of design in question and not upon the number of cars produced. Based on the number of models, the percentage of six-cylinder engines is 66.9, whereas on a production basis approximately 70 per cent of cars are powered with four-cylinder engines.

The change in average rated horsepower and piston displacement is so small as to be almost negligible. Both have remained almost stationary for several years.

Valve location shows very slight fluctuation. L-head and valve-in-head engines have decreased slightly and gain has been made by the sleeve valve type. The falling off in the percentage of L-head models is not due to a change in the trend but due rather to the decrease in the number of makes listed, which loss was largely absorbed by this group. The L-head type of engine still retains its lead with 61.8 per cent, and about the same percentage holds true in production.

Bore and Stroke Unchanged

The average bore and stroke, and consequently the bore-stroke ratio, remain approximately the same as last year. This year the average bore is 3.43, the average stroke 4.81 and the bore-stroke ratio 1.40. None of these items have varied to any degree since 1918.

An analysis of clutch types shows that the trend toward the disk and plate clutch, which has been continuous since 1914, remains the same. The disk and plate type taken together have increased from 94.2 per cent to 96.1 per cent in the last year, and the cone clutch has dropped to 3.9 per cent. If we carry the analysis further we find that the multiple-disk type has jumped from 36.5 per cent to 49.4 per cent, while the single plate type has decreased from 57.7 per cent to 46.7 per cent. Nearly all the multiple-disk clutches are of the dry variety.

In 1921 there was scarcely any difference in the popularity of the full-floating, three-quarter-floating and semi-floating rear axle. Last year the semi-floating type took the lead with 39.9 per cent, followed by the three-quarter-floating with 33.3 per cent. This year the semi-floating type is found on 54.7 per cent of passenger car models and the three-quarter type on 24 per cent.

The pressure system of lubrication, in which the oil is fed under pressure to the crankpin bearings as well as to the main crankshaft bearings, and in some cases even to the wrist pins and camshaft, has made great strides over last year and now leads over the splash and splash-pressure systems combined, the latter of which uses pressure to feed oil to the main bearings only and leaves the rest to splash. The relative standing is now as follows: pressure 58 per cent, splash and splash-pressure 42 per cent.

Spiral bevel final drive has come a little closer to universal application. It is now used on 99.3 per cent of all models. While this type of final drive covers almost all models, the straight bevel is still used on the Ford car and so is found on about 50 per cent of cars produced.

The different gearset locations hold practically the same relative position this year as they did last year and are as follows: unit with engines 86.1 per cent, separate unit amidship 10.6 per cent, unit with axle 0.7 per cent, and unit with torque tube 2.6 per cent.

Thermo-Syphon Cooling Loses Ground

Thermo-syphon cooling lost ground again this year while pump circulation and air cooling both gained. Seventy-three and seven-tenths per cent of models now have a water pump. The percentage of models using thermo-syphon cooling is only 23.7 per cent, but on a production basis well over 50 per cent of cars have this system.

Vacuum feed made a gain of 0.3 per cent at the expense of gravity and pressure feed systems and is now used on 90.1 per cent of car models. In spite of the fact that the percentage of gravity feed fell from 3.2 per cent to 2.6 per cent it is still found on about 51 per cent of cars when figured on a production basis.

Chain driven camshafts have gained again and are now found on about 35 per cent of models, whereas last year they appeared on about 28 per cent. In 1921 chain driven camshafts were used on only 19 per cent of the models produced.

Metal Universal Joints Predominate

This year metal universal joints are found on 78.2 per cent of passenger car models. Fabric joints stand second with a percentage of 19.2 while leather joints and combination metal and fabric have a percentage of 0.7 and 1.9 respectively.

The most popular type of steering gear is the worm and wheel. This particular type is furnished on 54 per cent of cars. The screw and nut type is used on 31.3 per cent of models. Worm and sector, planetary and bevel pinion and sector are found on models in the following percentages respectively: 12.7 per cent, 1.3 per cent and 0.7 per cent. On a production basis about 50 per cent of cars have the planetary steering gear due to the fact that this type is used by Ford.

Semi-elliptic front springs are well nigh universally used. This year the percentage of models using this type is 94.2. There still remains a great variation in the type of rear spring used. To be exact there are eight distinct types in use this year. The semi-elliptic type leads the field, as it does with front springs, and is found on 76.1 per cent of all models. The second most popular type of spring is the cantilever, used on 12.3 per cent of cars. The relative position of the remaining six types of springs is as follows: three-quarter elliptic 4.5 per cent, one-quarter elliptic 2.6 per cent, full elliptic 2 per cent, transverse semi-elliptic 1.3 per cent, platform 0.6 per cent and double transverse semi-elliptic 1.3 per cent.

Last year about 90 per cent of models had both sets of brakes on the rear wheels and the remaining 10 per cent had one set of brakes operating on the rear wheels and the other set on the drive shaft. This year the first mentioned group has fallen to 79.4 per cent and the locating of one set of brakes on the drive shaft has increased from 10 to 20.6 per cent. Last year there was only one American car using four wheel brakes, this year there are two. This European practice, the application of which has made great strides in certain Continental countries, has not taken firm hold here as yet.

Use of Disk Wheels Gains

The use of disk wheels has increased since last year and they are now found on 7 per cent of car models as standard equipment. This figure only takes into account the type of wheels used on the standard phaeton. If the sport models were considered there would undoubtedly be found a very great increase in the use of disk wheels.

Pressure gun chassis lubrication, which was unknown only a few years ago, is now found on about 60 per cent of all passenger car models.

The average gear ratio is 4.52, practically the same as last year, and the average wheelbase length remains at 122 in.

Passenger car chassis design this year stresses durability, silence of operation and accessibility. Changes of a startling nature do not exist and progress will be noted not in radically new ideas but in refinement of detail. This tendency toward refinement in design shows the recognition of service considerations and a determined effort to perfect that which is already developed in order that cars may deliver maximum performance in the hands of users.

American Passenger Car

MAKE AND MODEL	Wheel Base (Ins.)	Tire Size†	Weight of Phaeton (Lbs.)††	ENGINE											COOLING		LUBRICATION		FUEL SYSTEM		
				Make	No. of Cylinders Bore and Stroke	Piston Displacement in Cu. Ins.	Point Suspension	Cylinder Head	Valve Arrangement	Number of Cylinders Per Casting	Piston Material	Valve Head Material	Camshaft Drive	Camshaft Location	Temperature Control†	Water Circulation	Type of System	Type of Pump	Carbureter Make	Intake Heated By	Fuel Feed
‡‡American C	127	32x4	.....	H-S	6-3¼x5	248.9	3	Det.	"L" H.	6	CI	St.	M-G	IC	None.	Pump.	Sp. Pr.	Gear.	Strom.	Exh.	Vac.
American Steamer	127	33x4	.....	Own	2-										None.				None		
Anderson 41	114	32x4	2550	Cont.	6-3½x4¼	195.6	3	Det.	"L" H.	6	CI	St.	Chain	IC	None.	Pump.	Press.	Gear.	Zenith	Exh.	Vac.
Anderson 50	122	32x4	2950	Cont.	6-3⅜x4½	242.1	3	Det.	"L" H.	6	CI	St.	C.G	IC	None.	Pump.	Press.	Gear.	Rayfield	Exh.	Vac.
Apperson 6	.....	32x4	.....		6-3½x4½	207.1									None.	Th.S.					
Apperson 8	130	33x5	3610	Own	8-3½x5	331.8	4	Det.	"L" H.	4	CI	St.	M-G	IC	None.	Th.S.	Fl. Pr.	Gear.	John	E&W	Vac.
Auburn 6-43	114	31x4	.....	Cont.	6-3½x4¼	195.6	3	Det.	"L" H.	6	CI	St.	Chain	IC	None.	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Auburn 6-51	121	32x4	3110	Cont.	6-3½x4¼	195.0	3	Det.	"L" H.	6	CI	St.	Chain	IC	None.	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Auburn 6-63	122	32x4½	.....	.....	6-3¼x5	248.9	3	Det.	IH.	6	CI	.....	Chain	IC	None.	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Barley	118	32x4	2700	Cont.	6-3¼x4¼	195.6	3	Det.	"L" H.	6	CI	St.	Chain	IC	None.	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Bay State	121	32x4	2935	Cont.	6-3⅜x4½	242.1	3	Det.	"L" H.	6	CI	St.	C.G	IC	Ther.	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Bay State	128	33x4½	3450	Cont.	6-3⅜x4½	242.6	3	Det.	"L" H.	6	CI	St.	C.G	IC	Ther.	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Beggs Six	120	33x4	2862	Cont.	6-3⅜x4½	242.6	3	Det.	"L" H.	6	CI	St.	C.G	IC	None.	Pump.	Press.	Gear.	Strom	E&W	Vac.
Brewster 02	125	32x4½	3800	Own	4-4 x5½	276.5	4	Det.	S.T.	4	CI	.....	Chain	IC	None.	Pump.	Fl. Pr.	Gear.	Zenith	Wat.	Vac.
Buick 34-5-6-7-8	109	31x4	2455	Own	4-3¾x4¾	170.0	3	Det.	IH.	4	CI	St.	M-G	IC	None.	Pump.	Sp. Pr.	Gear.	Marvel	Exh.	Vac.
Buick 41-4-5-7	118	32x4½	3080	Own	6-3⅜x4½	242.6	3	Int.	IH.	6	CI	St.	M-G	IC	None.	Pump.	Sp. Pr.	Gear.	Marvel	Exh.	Vac.
Buick 48-9-50-4-5	124	33x4½	3355	Own	6-3⅜x4½	242.6	3	Int.	IH.	6	CI	St.	M-G	IC	None.	Pump.	Sp. Pr.	Gear.	Marvel	Exh.	Vac.
Cadillac 61	132	33x5	3955	Own	8-3½x5⅛	314.4	3	Det.	"L" H.	4	CI	St.	Chain	IC	Ther.	Pump.	Press.	Gear.	Own	Exh.	Press.
Case X	122	32x4½	2950	Cont.	6-3⅜x4½	241.6	3	Det.	"L" H.	6	CI	St.	C.G	IC	Ther.	Pump.	Press.	Gear.	Rayfield	Exh.	Vac.
Case W	129	34x4½	3690	Cont.	6-3⅝x5¼	324.8	3	Det.	"L" H.	6	CI	St.	Chain	IC	Ther.	Pump.	Press.	Gear.	Rayfield	Exh.	Vac.
‡‡Chalmers 1923	117	32x4	2880	Own	6-3½x4½	224.0	3	Det.	"L" H.	6	Al	St.	Chain	IC	None.	Th.S.	Sp. Pr.	Gear.	Strom	Exh.	Vac.
‡‡Chalmers 1923	122	32x4	3060	Own	6-3½x4½	224.0	3	Det.	"L" H.	6	Al	St.	Chain	IC	None.	Th.S.	Sp. Pr.	Gear.	Strom	Exh.	Vac.
Chandler	123	32x4	.....	Own	6-3½x5	288.6	4	Det.	"L" H.	6	CI	.....	Chain	IC	None.	Pump.	Sp. Pr.	Gear.	Strom	Exh.	Vac.
Chevrolet M	103	30x3½	1670	Own	4-3½x3½	134.7	3	Det.	IH.	1	Al	St.	M-G	IC	None.	Air	Splash.	Gear.	Carter	Exh.	Vac.
Chevrolet Superior	103	30x3½	.....	Own	4-3½x4	170.8	3	Det.	IH.	4	CI	CI	M-G	IC	None.	Pump.	Sp. Pr.	Gear.	Zenith	Exh.	Vac.
Cleveland 42	112½	31x4	2645	Own	6-3½x4½	199.0	4	Det.	IH.	6	CI	CI	Chain	IC	None.	Pump.	Sp. Pr.	Gear.	Strom	E&W	Vac.
Climber S	125½	32x4½	3250	H-S	6-3½x5	230.1	3	Det.	"L" H	6	CI	St.	M-M-G	IC	None.	Pump.	Sp. Pr.	Gear.	Strom	Exh.	Vac.
Cole 890	127½	33x5	4030	North	8-3½x4½	346.3	3	Det.	"L" H.	4	Al	St.	C.G	IC	Ther.	Pump.	Sp. Pr.	Gear.	John	Exh.	Vac.
Columbia Light 6	115	31x4	2510	Cont.	6-3½x4¼	195.6	3	Det.	"L" H.	6	CI	St.	Chain	IC	None	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Columbia Big 6	115	32x4	2950	Cont.	6-3⅜x4½	241.8	3	Det.	"L" H.	6	CI	St.	C.G	IC	Pump	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Courier	116	32x4	2750	Falls	6-3½x4¼	195.6	3	Det.	IH.	6	CI	C.I	C.G	IC	None.	Th-S.	Press.	Gear.	Strom	Exh.	Vac.
Crawford 6-60	138	33x4½	4000	Cont.	6-3⅝x5¼	324.0	3	Det.	"L" H.	6	CI	St.	Chain	IC	Ther.	Pump.	Press.	Gear.	Zenith	Exh.	Vac.
Crawford-Dagmar 23-6-70	138	33x5	4000	Cont.	6-3⅝x5¼	324.0	3	Det.	"L" H.	6	CI	St.	Chain	IC	Ther.	Pump.	Press.	Gear.	Zenith	Exh.	Vac.
Cunningham V4	132	33x5	4500	Own	8-3¾x5	441.8	4	Det.	"L" H.	4	CI	St.	C-G	IC	Ther.	Pump.	Press.	Gear.	Strom	Wat	Vac.
Cunningham V4	142	33x5	4500	Own	8-3¾x5	441.8	4	Det.	"L" H.	4	CI	St.	C-G	IC	Ther.	Pump.	Press.	Gear.	Strom	Wat.	Vac.
Daniels 23-38	132	33x5	4200	Own	8-3½x5¼	404.1	3	Det.	"L" H.	4	CI	St.	M-G	IC	None.	Pump.	Press.	Gear.	Strom	E&W	Press.
Davis 63-65	120	32x4½	2930	Cont.	6-3⅜x4½	241.5	3	Det.	"L" H.	6	CI	St.	C.G	IC	None.	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Davis 71	115	31x4	2685	Cont.	6-3½x4¼	195.6	3	Det.	"L" H.	6	CI	St.	Chain	IC	None.	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Dodge Brothers	114	32x4	2535	Own	4-3⅞x4½	212.0	3	Det.	"L" H.	4	C or A	.....	M-G	IC	None.	Pump.	Sp. Pr.	Ecc.	Stewart	Exh.	Vac.
Dorris 6-80	132	33x5	4115	Own	6-4 x5	377.0	4	Det.	IH.	3	CI	St.	C.G	IC	None.	Pump.	Sp. Pr.	Gear.	Strom	Exh.	Vac.
Dort 18-23	108	31x4	.....	Lyc	4-3½x5	192.0	3	Det.	"L" H.	4	CI	CI	M-G	IC	None.	Th-S.	Splash.	Pist.	Carter	Exh.	Vac.
Dort 25-20	115	31x4	2500	Falls	6-3½x4¼	195.6	3	Det.	IH.	6	CI	St.	C.G	IC	None.	Th-S.	Press.	Gear.		Exh.	Vac.
Duesenberg 8	134	33x5	3300	Own	8-27/8x5	260.0	3	Det.	IH.	8	Al	St.	M-G	OH	Ther.	Pump.	Press.	Gear.	Strom	E&W	Vac.
Durant A-22	109	31x4	2135	Cont.	4-3⅞x4¼	200.5	4	Det.	IH.	4	CI	CI	M-G	IC	None.	Pump.	Press.	Gear.	Till	Exh.	Vac.
‡‡Durant B-22	123½	32x4½	.....	Anst.	6-3¼x4½	224.0	4	Det.	IH.	6	CI	CI	C.G	IC	None.	Pump.	Press.	Gear.	Rayfield	Exh.	Vac.
Earl 40	112	32x4	2430	Own	4-3 7/8x5¼	195.0	4	Det.	"L" H.	4	CI	CI	C-G	IC	None.	Th-S.	Sp. Pr.	Pist.	Scoe	Exh.	Vac.
Elcar 4-40	112	31x4	.....	Lyc	4-3½x5	192.4	3	Det.	"L" H.	4	CI	CI	M-G	IC	None.	Pump.	Splash.	Pist.	Strom	Exh.	Vac.
Elcar 6-60	118	32x4	.....	Cont.	6-3¼x4½	224.0	3	Det.	"L" H.	6	CI	St.	M-G	IC	None.	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Essex	108½	32x4	2600	Own	4-3⅜x5	179.0	4	Det.	"F" H.	4	Al	St.	Chain	IC	Shut.	Th-S.	Splash.	Pist.	Own	Wat.	Vac.
Flint	120	32x4½	.....	Cont.	6-3⅜x5	268.4	4	Det.	"L" H.	6	CI	St.	Chain	IC	Ther.	Pump.	Fl. Pr.	Gear.	Strom	Exh.	Vac.
Ford T	100	30x3½	1571	Own	4-3¾x4	176.7	3	Det.	"L" H.	4	CI	CI	M-G	IC	None.	Th-S.	Splash.	None.	Own*	Grav.	
Fox	132	32x4½	3300	Own	6-3⅜x5	268.3	3	Det.	IH.	1	Al	St.	Chain	OH	None.	Air	Sp. Pr.	Gear.	Zenith	Exh.	Vac.
Franklin 10	115	32x4	2490	Own	6-3½x4	199.0	3	Int.	IH.	1	Al	St.	Chain	IC	None.	Air	Sp. Pr.	Gear.	Own	Exh.	Vac.
Gardner T-R-C-S	112	32x4	2490	Lyc	4-3¼x5	214.0	3	Det.	"L" H.	4	Al	CI	C-G	IC	None.	Th-S.	Press.	Gear.	Carter	Exh.	Vac.
Gray	100	30x3½	1600	Own	4-3⅝x4	165.1	3	Det.	"L" H.	4	CI	CI	M-G	IC	None.	Th-S.	Splash.	None.	Scoe	Exh.	Grav.
H. C. S. Series IV	120	32x4½	3240	Weid	4-3¾x5½	242.0	4	Det.	IH.	4	CI	CI	C.G	IC	None.	Pump.	Sp. Pr.	Gear.	Strom	Exh.	Press.
H. C. S. 6	126	32x4½	.....	Midw	6-3½x5	288.6	4	Det.	IH.	6	CI	St.	Chain	IC	None.	Pump.	Fl. Pr.	Gear.	Strom	Exh.	Press.
Handley 6-40	115	32x4½	2600	Falls	6-3½x4¼	195.6	....	Det.	IH.	6	CI	CI	C.G	IC	None.	Th.S.	Press.	Gear.	Strom		Vac.
Handley 6-60	125	32x4½	3200	Midw	6-3⅜x5	268.4	....	Det.	IH.	6	CI	CI	Chain	IC	None.	Pump.	Fl. Pr.	Gear.		Exh.	Vac.
Hanson 66	121	32x4	2750	Cont.	6-3⅜x4½	241.5	3	Det.	"L" H.	6	CI	St.	C.G	IC	None.	Pump.	Press.	Gear.	Marvel	Exh.	Vac.
Hatfield 6-55	121	32x4	2875	H-S	6-3¼x5	248.9	....	Det.	"L" H.	6	Al	CI	M-G	IC	None.	Pump.	Sp. Pr.	Gear.	Strom	Exh.	Vac.
‡‡Hatfield A-42	115	32x4	.....	H-S	4-3½x5	192.4	3	Det.	"L" H.	4	CI	CI	M.G	IC	None.	Th.S.	Sp. Pr.	Gear.	Zenith	Exh.	Vac.
Haynes 75	132	33x5	3580	Own	6-3⅝x5 3/16	299.4	3	Det.	"L" H.	6	Al	St.	Chain	IC	Ther.	Pump.	Sp. Pr.	Vane.	Strom	Exh.	Vac.
Haynes 55	121	32x4½	3210	Own	6-3½x5	288.0	3	Int.	"L" H.	6	CI	St.	N-M-G	IC	None.	Pump.	Sp. Pr.	Vane.	Rayfield	Exh.	Vac.
Holmes Series 4	126	34x4½	2900	Own	6-3½x4¼	246.0	3	Det.	IH.	1	Al	St.	C-G	IC	Shut.	Air	Press.	Gear.	Strom	Exh.	Vac.
Hudson Super Six	126	34x4½	3445	Own	6-3½x5	288.0	3	Det.	"L" H.	6	Al	St.	Chain	IC	Shut.	Pump.	Press.	Pist.	Own	Wat.	Vac.
Huffman	120	32x4	2980	Cont.	6-3⅜x4½	241.5	3	Det.	"L" H.	6	CI	St.	C-G	IC	None.	Pump.	Press.	Gear.	Strom	Exh.	Vac.
Hupmobile R	112	32x4	2590	Own	4-3¼x5½	183.0	3	Det.	"L" H.	4	CI	St.	Chain	IC	None.	Th-S.	Fl. Pr.	Gear.	Strom	Exh.	Vac.
Jewett	112	31x4	2620	Own	6-3½x5	249.0	3	Det.	"L" H.	6	CI	St.	C-G	IC	None.	Pump.	Sp. Pr.	Gear.	Strom	Exh.	Vac.
Jordan MX	120	32x4	2935	Own	6-3 1/8x4¾	245.6	3	Det.	"L" H.	6	CI	St.	Chain	IC	None.	Pump.	Sp. Pr.	Gear.	Strom	Exh.	Vac.
Jordan H	124½	32x4½	3000	Own	6-3 1/8x4¾	245.6	3	Det.	"L" H.	6	CI	St.	Chain	IC	None.	Pump.	Sp. Pr.	Gear.	Strom	Exh.	Vac.
Kelsey G	111	32x4	2500	G-B	4-3½x5	192.4	3	Det.	IH.	4	CI	CI	M-G	IC	None.	Th-S.	Press.	Gear.	Scoe	Exh.	Vac.

ABBREVIATIONS:
†—On Standard Phaeton Models
‡‡—Taken from 1922 Specifications
††—Also fitted with Cont. 8R Motor

ENGINE:
HS—Herschell-Spillman
Cont—Continental
North—Northway
Lyc—Lycoming
Anst—Ansted
G. B.—Gray Beal
Dues—Duesenberg
Midw—Midwest
Weid—Weidely
Det—Detachable
Int—Integral
"L" H—At Side
"T" H—Opposite
"F" H—In Head and Side
S. T.—Sleeve Type
I. H.—Both in Head
C. I.—Cast Iron
C. or I.—Cast Iron or Aluminum
Al—Aluminum
St—Steel
S. S.—Semi-Steel
C-G—Combination Metal and Non-Metallic Gear
M. G.—Metal Gear
N-M-G—Non-Metallic Gear
IC—In Crankcase
OH—Overhead
Ther—Thermostat
Shut—Shutter
T. & S.—Thermostat and Shutter
Th. S.—Thermo-Siphon
Sp. Pr.—Splash with pressure to main bearings only
Press—Pressure to all bearings excluding wrist pins
Fl. Pr.—Pressure to all bearings including wrist pins
Pist—Piston
Ecc—Eccentric
Strom—Stromberg
Ball & B.—Ball & Ball
Till—Tillotson
John—Johnson
Scheb—Schebler
Own*—Also fitted with Holley and Kingston
Exh—Exhaust
Wat—Water
E. & W.—Exhaust & Water
Vac—Vacuum
Press—Pressure
Grav—Gravity
Bring—Berling
West—Westinghouse
N. E.—North East
A-K—Atwater-Kent
Scint—Scintilla
King—Kingston
Split—Splitdorf
Conn—Connecticut
*—Generator Wagner
Prest—Prestolite
Bat—Battery
Mag—Magneto

ELECTRICAL SYSTEM:
G. & D.—Gray & Davis
L-N—Leece-Neville
A-L—Auto-Lite

TRANSMISSION:
B. & B.—Borg & Beck
Mun—Muncie
Detl—Detlaff

Chassis Specifications

ELECTRICAL SYSTEM					TRANSMISSION												RUNNING GEAR									MAKE
	IGNITION				CLUTCH		GEARSET			UNIVERSAL		REAR AXLE					SPRINGS		BRAKES		STEERING GEAR					
Generator and Starter Make	Make	Current Source	Voltage		Make	Type	Make	Location	No. of Forward Speeds	Make	Type	Make	Type	Gear Ratio†	Propulsion Taken By	Torque Taken By	Final Drive	Type, Front	Type, Rear	Foot, Type and Location	Hand, Type and Location	Make	Type	Front Axle Make	Chassis Lubrication	Standard Type of Wheels†	
G&D	A-K	Bat	6-8		B&B	SP	Warn	UwE	3	Hart	M	Salis	F	4.50	S	S	SB	½E.	½E.	ExtRw.	IntRw.	War	W&W	Salis.		O.	‡‡American
L-N	L-N				None		None					Own		1.75				½E.	½E.								American
West	West	Bat	6-8		B&B.	SP	Durs.	UwE	3	Univ	F	Salis	½F.	4.62	S	S	SB	½E.	½E.	ExtRw.	ExtDS.	Gem	W&W	Salis.	PG	A.	Anderson
Remy	Remy	Bat	6-8		B&B.	SP	Durs.	UwE	3	Univ	F	Salis	¾F.	4.62	S	S	SB	½E.	½E.	ExtRw.	ExtDS.	Gem	W&W	Salis.	PG	A.	Anderson
Remy	Remy	Bat	6-8					UwE				Timk	½F.	4.00													Apperson
Remy	Remy	Bat	6-8		Own	MDD	Own	SepU	3	Thiem	M	Own	½F.	4.25	S	S	SB	½E.	¾E.	ExtRw.	IntRw.	Own	W&W	Own	PG	A.	Apperson
Bijur	Remy	Bat	6-8		B&B.	SP	Warn	UwE	3		M	Col	½F.		S	S	SB	½E.	½E.	ExtRw.	ExtDS.	Jac	S&N	Col	PG	A.	Auburn
Remy	Remy	Bat	6-8		B&B.	SP	G-L	UwE	3	Univ	M	Salis	½F.	5.00	S	TA	SB	½E.	½E.	ExtRw.	IntRw.	Ross	S&N	Salis.	GC	A.	Auburn
Remy	Remy	Bat	6-8		B&B.	SP	Warn	UwE	3			Col	½F.		S	S	SB	½E.	½E.	IntRw.	ExtRw.	Ross	S&N	Col	PG	A.	Auburn
Delco	Delco	Bat	6-8		B&B.	SP	Full	UwE	3	M&E	F	Col	½F.	4.58	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Jac	S&N	Col	PG	A.	Barley
Delco	Delco	Bat	6-8		B&B.	SP	Warn	UwE	3	Spicer	M	Col	¾F.	4.67	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&W	Col	PG	A.	Bay State
Delco	Delco	Bat	6-8		B&B.	SP	Warn	UwE	3	Spicer	M	Col	¾F.	4.67	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&W	Col	PG	A.	Bay State
A-L	Conn	Bat	6-8		B&B.	SP	Detr	UwE	3	Arvac	M	Timk	¾F.		S	S	SB	½E.	½E.	ExtRw.	IntRw.	Dit	W&W	Timk	OC	A.	Beggs
GSL	Bosch	Mag	12-16		Own	Cone	Own	UwTT	3	Own	L	Own	F	4.25	TT	TT	SB	½E.	Cant	IntRw.	IntRw.	Own	S&N	Own	OC	A.	Brewster
Delco	Delco	Bat	6-8		Own	MDD	Own	UwE	3	Own	M	Own	¾F.	4.66	TT	TT	SB	½E.	½E.	IntRw.	ExtRw.	Jac	S&N	Own	PG	A.	Buick
Delco	Delco	Bat	6-8		Own	MDD	Own	UwE	3	Own	M	Own	F.	4.40	TT	TT	SB	½E.	Cant	IntRw.	ExtRw.	Jac	S&N	Own	PG	A.	Buick
Delco	Delco	Bat	6-8		Own	MDD	Own	UwE	3	Own	M	Own	F.	4.40	TT	TT	SB	½E.	Cant	IntRw.	ExtRw.	Jac	S&N	Own	PG	A.	Buick
Delco	Delco	Bat	6-8		Own	MDD	Own	UwE	3	Spicer	M	Timk	F.	Opt.	S	TA	SB	½E.	Plat	ExtRw.	IntRw.	Own	W&S		PG	A.	Cadillac
Delco	Delco	Bat	6-8		Own	MDD	Own	UwE	3	Snead	F	Col	½F.	4.66	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Jac	S&N	Col	PG	A.	Case
Delco	Delco	Bat	6-8		Own	MDD	Own	UwE	3	Arvac	F	Col	¾F.	4.45	S	TA	SB	½E.	½E.	ExtRw.	IntRw.	Jac	S&N	Col	PG	A.	Case
A-L	Remy	Bat	6-8		Own	MDD	Own	UwE	3		M	Adams	½F.	5.12	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Own	W&W			A.	‡Chalmers
A-L	Remy	Bat	6-8		Own	MDD	Own	UwE	3		M	Adams	½F.	5.12	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Own	W&W			A.	‡‡Chalmers
Bosch	Bosch	Bat	6-8		B&B.	SP	Own	UwE	3	ThH	F	Own	F.	4.45	S	S	SB	½E.	½E.	ExtRw.	ExtDS.	Own	W&W	Own	OC	A.	Chandler
Remy	Remy	Bat	6-8		Own	MDD	Own	UwE	3	Mech	M	Own	½F.	4.44	S	TA	SB	¼E.	¼E.	ExtRw.	ExtDS.	Jac	S&N	Own	GC	A.	Chevrolet
A-L	Remy	Bat	6-8		Own	Cone	Own	UwE	3	Own	M	Own	½F.	3.77	S	TT	SB	¼E.	¼E.	ExtRw.	IntRw.	Mun	W&W	Own	GC	A.	Chevrolet
Bosch	Bosch	Bat	6-8		B&B.	SP	Own	UwE	3	Mech	M	Own	½F.	4.90	S	S	SB	½E.	½E.	ExtRw.	ExtDS.	CAS	W&W	Own	PG	A.	Cleveland
West	Bosch	Mag	6-8		Mun	MDD		UwE	3	Univ	M	Adams	½F.	4.00	S	S	SB	½E.	½E.	ExtRw.	IntRw.	CAS	W&W	Adams	GC	A.	Climber
Delco	Delco	Bat	6-8		North	MDD	Own	UwE	3	Spicer	M	Col	¾F.	4.70	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&W	Col	GC	Opt.	Cole
A-L	A-L	Bat	6-8		B&B.	SP	Durs.	UwE	3	Spicer	M	Timk	½F.	4.80	S	S	SB	½E.	½E.	ExtRw.	ExtDS.	Gem	W&W	Timk	OC	A.	Columbia
A-L	A-K	Bat	6-8		B&B.	SP	Durs.	UwE	3	Spicer	M	Timk	½F.	4.75	S	TA	SB	½E.	Cant	ExtRw.	IntRw.	Gem	W&W	Timk	GC	A.	Columbia
West	A-K	Bat	6-8		B&B.	S	Mun	UwE	3	Flex	F	Col	¾F.	5.00	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Lav	S&N	Peru	A.M.	O.	Courier
West	Bosch	Mag	6-8		BL	MDD	BL	UwE	3	Spicer	M	Timk	½F.		S	S	SB	½E.	½E.	ExtRw.	IntRw.	Lav	W&W	Timk	PG	D.	Crawford
West	Bosch	Mag	6-8		BL	MDD	BL	UwE	3	Spicer	M	Timk	½F.		S	S	SB	½E.	½E.	ExtRw.	IntRw.	Lav	W&W	Timk	PG	D.	Crawford
Delco	Delco	Bat	6-8		Own	MDD	Own	UwE	4	Snead	F	Timk	F.	3.50	S	TA	SB	½E.	¾E.	ExtRw.	IntRw.	Gem	W&W	Timk	PG	O.	Cunningham
Delco	Delco	Bat	6-8		Own	MDD	Own	UwE	4	Snead	F	Timk	F.	4.23	S	TA	SB	½E.	¾E.	ExtRw.	IntRw.	Gem	W&W	Timk	PG	O.	Cunningham
Delco	Delco	Bat	6-8		Own	MDD	Own	UwE	3	Spicer	M	Timk	F.	4.23	S	TA	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&W	Timk	OC	A.	Daniels
Delco	Delco	Bat	6-8		B&B.	SP	Warn	UwE	3	Peters	M	Timk	½F.	5.09	S	S	SB	½E.	½E.	ExtRw.	IntRw.	CAS	W&W	Timk	OC	D.	Davis
Delco	Delco	Bat	6-8		B&B.	SP	Warn	UwE	3	Peters	M	Timk	½F.	5.10	S	S	SB	½E.	½E.	IntRw.	ExtRw.	CAS	W&W	Timk	OC	D.	Davis
NE	NE	Bat	12-16		Own	MDD	Own	UwE	3	Own	M	Own	½F.	4.17	S	TT	SB	½E.	¾E.	ExtRw.	IntRw.	Own	W&W	Own	PG	A.	Dodge
West	Bosch	Mag	6-8		Own	MDD	Warn	UwE	3	Spicer	M	Timk	½F.	4.25	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Ross	S&N	Timk	OC	A.	Dorris
Bosch	Conn	Bat	6-8		Detl	MDD	Own	UwE	3	Mech	M	Flint	¾F.	4.60	S	TT	SB	½E.	Cant	ExtRw.	IntRw.	Jac	S&N			A.	Dort
Bosch	Bosch	Bat	6-8		Detl	MDD	Own	UwE	3	Mech	M	Flint	¾F.	4.66	S	TT	SB	½E.	Cant	ExtRw.	IntRw.	Sag	S&N	Flint	PG	A.	Dort
Delco	Delco	Bat	6-8		Own	SP	Own	UwE	3	Climax	F	Own	½F.	4.45	TT	TT	SB	½E.	½E.	IntR&F.	ExtDS.	Ross	S&N	Own	PG	W.	Duesenberg
A-L	A-L	Bat	6-8		Own	SP	Warn	SepU	3	Spicer	M	Adams	¾F.	4.33	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Warn	W&W	Adams	PG	A.	Durant
A-L	A-L	Bat	6-8		Anst	MDD	Warn	SepU	3	Spicer	M-F	Timk	½F.	5.09	S	TT	SB	½E.	½E.	ExtRw.	IntRw.	Warn	W&W	Timk		A.	‡‡Durant
A-L	Conn	Bat	6-8		B&B.	SP	Own	UwE	3	Own	F	Own	½F.	4.87	S	S	SB	½E.	½E.	ExtRw.	ExtDS.	CAS	W&W	Own	PG	A.	Earl
Delco	Delco	Bat	6-8		B&B.	SP	Mun	UwE	3	Peters	M	Salis	¾F.	4.50	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Fost	W&S			A.	Elcar
Delco	Delco	Bat	6-8		B&B.	SP	Warn	UwE	3	Spicer	M	Salis	¾F.	4.75	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&S			A.	Elcar
Bosch	Bosch	Bat	6-8		Own	MDO	Own	UwE	3	Spicer	M	Own	½F.	4.66	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&W	Own	OC	A.	Essex
A-L	A-L	Bat	6-8		Own	SP	Warn	SepU	3	Spicer	M	Adams	½F.	4.77	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Warn	W&W	Adams	PG	A.	Flint
Own	Own	Bat	6-8		Own	MDO	Own	UwE	2	Own	M	Own	½F.	3.63	TT	TT	StB	T¼E	T¼E	ExtDS.	IntRw.	Own	Plan	Own	GC	A.	Ford
Feist	Scint	Mag	6-8		BL	MDD	BL	UwE	3	Spicer	M	Timk	½F.	4.90	S	TA	SB	½E.	½E.	ExtRw.	IntRw.	Ross	S&N	Timk	PG	W	Fox
NE	A-K	Bat	6-8		B&B.	SP	Own	UwE	3	Spicer	M	Own	½F.	4.73	S	S	SB	Ell.	Ell.	ExtDS.	ExtRw.	Own	W&W	Own	PG	A.	Franklin
West	West	Bat	6-8		B&B.	SP	Mech	UwE	3	Mech	M	Flint	¾F.	4.80	S	S	SB	½E.	½E.	ExtRw.	ExtDS.	Dit	W&W	Flint	PG	O.	Gardner
West	West	Bat	6-8		Own	MDO	Own	UwE	3	Mech	M	Timk	½F.	3.90	S	S	SB	¼E.	¼E.	IntRw.	ExtDS.	Own	W&W	Timk	OC	A.	Gray
Delco	Delco	Bat	6-8		BL	MDD	BL	UwE	3	Spicer	M	Own	½F.		TT	TT	SB	½E.	½E.	IntRw.	IntRw.	Gem	W&W	Own	OC	O.	H. C. S
Delco	Delco	Bat	6-8		BL	MDD	BL	UwE	3	Spicer	M	Own	¾F.	4.36	TT	TA	SB	½E.	½E.	IntRw.	IntRw.	Gem	S&N	Own	OC	O.	H. C. S.
Bosch		Bat	6-8		Mech	MDD	Mech	UwE	3	Mech	M	Timk		4.90	S	S	SB	½E.	½E.	ExtRw.	ExtDS.	Gem	W&W	Timk	OC	D.	Handley
		Bat	6-8			MDD		UwE	3		M	Timk	½F.	4.90	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&W	Timk	PG	O.	Handley
Delco	Delco	Bat	6-8		B&B.	SP	GL	UwE	3	Univ	M	Timk	F.	4.66	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	S&N	Timk	PG	A.	Hanson
Bosch	Bosch	Bat	6-8		B&B.	SP	BL	UwE	3	Spicer	M	Col	F.	4.63	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&S	Col	OC	A.	Hatfield
Dyneto	Conn	Bat	6-8		B&B.	SP	GL	UwE	3	Spicer	M	Col	¾F.	4.63	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&S			A.	‡‡Hatfield
L-S	King	Bat	6-8		Warn	MDD	Own	UwE	3	Univ	M	Own	¾F.	4.60	S	TA	SB	½E.	½E.	ExtRw.	IntRw.	Jac	S&N	Own	PG	A.	Haynes
L-S	King	Bat	6-8		Warn	MDD	Own	UwE	3	Univ	M	Own	½F.	4.41	S	S	SB	½E.	½E.	ExtRw.	ExtDS.	Jac	S&N	Own	PG	A.	Haynes
Dyneto	Eisem	Mag	12-16		BL	MDD	BL	UwE	3	Peters	M	Timk	½F.	4.90	S	S	SB	Ell.	Ell.	ExtDS.	IntRw.	Gem	W&W	Timk	PG	A.	Holmes
Bosch	Bosch	Bat	6-8		Own	MDO	Own	UwE	3	Spicer	M	Timk	½F.	4.45	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&W	Own	OC	A.	Hudson
Dyneto	Conn	Bat	6-8		B&B.	SP	GL	UwE	3	Norw	F	Salis	F.	4.50	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Dit	W&W	Salis	OC	A.	Huffman
West	A-K	Bat	6-8		Own	MDD	Own	UwE	3	Univ	M	Own	¾F.	4.88	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Jac	S&N	Own	PG	A.	Hupmobile
Remy	A-K	Bat	6-8		Long	MDD	Warn	UwE	3	Mech	M	Timk	½F.	4.45	S	S	SB	½E.	½E.	ExtRw.	ExtDS.	Gem	W&W	Timk	GC	A.	Jewett
Delco	Delco	Bat	6-8		Detr	MDD	Detr	UwE	3	Spicer	M	Timk	½F.	4.41	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&W	Timk	PG	A.	Jordan
Delco	Delco	Bat	6-8		Detr	MDD	Detr	UwE	3	Thiem	M	Timk	½F.	4.41	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Gem	W&W	Timk	PG	A.	Jordan
Bosch	Bosch	Bat	6-8		B&B.	SP	Detr	UwE	3	Spicer	M	Stan	½F.	4.75	S	S	SB	½E.	½E.	ExtRw.	IntRw.	Lav	S&N	Eaton	PG	A.	Kelsey

Anst—Ansted
North—Northway
Warn—Warner
B-L—Brown & Lipe
M&E—Merchant & Evans
Detr—Detroit
Dool—Dooley
Mech—Mechanics
G-L—Grant-Lees
Durs—Durston
SP—Single Plate
MDD—Multiple Dry Disk
MDO—Multiple Disk in Oil
UwA—Unit with Rear Axle
UwE—Unit with Engine
UwTT—Unit with Torque Tube
SepU—Separate Unit
Univ.—Universal
Thiem—Thiemer
ThH—Thermoid-Hardy
Hart—Hartford
Norw—Norwalk
M—Metal
F—Fabric
L—Leather
MF—Metal Fabric
Flex—Flexite
Timk—Timken
Salis—Salisbury
Col—Columbia
F—Floating
¾ F.—Three-Quarter Floating
½ F.—Semi-Floating
RR—Radius Rods
S—Springs

RUNNING GEAR:
TT—Torque Tube
TA—Torque Arm
SB—Spiral Bevel
StB—Straight Bevel
Sp—Spur
½ E—Half Elliptic
¾ E—Three-quarter Elliptic
T ½ E—Transverse Half Elliptic
DTE—Double Transverse Semi Elliptic
¼ E—Quarter Elliptic
Cant—Cantilever
Ell—Elliptic
Plat—Platform
ExtRw—External Rear Wheels
IntRw—Internal Rear Wheels
Ext. DS—External Driveshaft
R&F—Internal Rear and Front Wheels
War—Warner
Gem—Gemmer
Jac—Jacox
Dit—Ditwiler
Mun—Muncie
Lav—Lavine
Woh—Wohlrab
W&S—Worm and Sector
W&W—Worm and Wheel
S&N—Screw and Nut
Plan—Planetary
BPS—Bevel Pinion and Sector
OC—Oil Cups
PG—Pressure Gun
GC—Grease Cups
AM—Automatic
A—Artillery
W—Wire
D—Disk
O—Optional

American Passenger Car

MAKE AND MODEL	Wheel Base (Ins.)	Tire Size†	Weight of Phaeton (Lbs.)†	ENGINE																			
				Make	No. of Cylinders Bore and Stroke	Piston Displacement in Cu. Ins.	Point Suspension	Cylinder Head	Valve Arrangement	Number of Cylinders Per Casting	Piston Material	Valve Head Material	Camshaft Drive	Camshaft Location	COOLING		LUBRICATION		FUEL SYSTEM				
															Temperature Control†	Water Circulation	Type of System	Type of Pump	Carbureter Make	Intake Heated By	Fuel Feed		
King.....LL	120	32x4½	3560	Own....	8-3 x5	282.8	3	Int...	"L"H.	4	CI....	CI....	Chain.....	IC....	None..	Th.S....	Sp. Pr.....	Gear..	Ball & B..	Exh ..	Vac...		
King.....L	124	32x4½	3650	Own....	8-3 x5	282.8	3	Int...	"L"H.	4	CI....	CI....	Chain.....	IC....	None..	Th.S....	Sp. Pr.....	Gear..	Ball & B..	Exh..	Vac...		
Kissel.....55	121	32x4	.....	.....	6-3 1/16x5½	265.0	....	Det...	"L"H.	6	CI....	.....	.....	IC....	Ther..	Pump...	Press.....	Gear..	Strom.....	.....	Vac...		
‡‡Kissel.....45	124	32x4½	.....	Own....	6-3 1/16x5½	284.4	3	Det...	"L"H.	6	CI....	St....	N-M-G.....	IC....	Ther..	Pump...	Sp. Pr.....	Gear..	Strom.....	Exh..	Vac...		
Kline Kar.....6-60-L	121	33x4	2850	Cont....	6-3⅝x4½	241.5	3	Det...	"L"H.	6	CI....	St....	C-G.....	IC....	None..	Pump...	Press.....	Gear..	Rayfield...	Exh..	Vac...		
Kurtz.....65	122	33x4½	3100	H-S.....	6-3½x5	288.0	3	Det...	"L"H.	6	CI....	St....	M-G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Till.....	Exh..	Vac...		
LaFayette.....	132	33x5	4010	Own....	8-3¼x5¼	348.0	4	Det...	"L"H.	4	CI....	St....	Chain.....	IC....	Ther..	Pump...	Press.....	Gear..	John.....	Exh..	Press..		
‡‡Leach.....999	134	32x4½	.....	Own....	6-3¾x5¼	347.9	3	Det...	IH....	6	CI....	.....	.....	.....	.....	Pump...	Press.....	Gear..	Rayfield...	.....	Vac...		
Lexington.....23	123	32x4½	3170	Anst....	6-3¼x4½	224.0	3	Det...	IH....	6	CI....	CI....	C-G.....	IC....	Ther..	Pump...	Press.....	Gear..	Rayfield...	Exh..	Vac...		
Liberty.....10-D	117	32x4	.....	Own....	6-3½x5	230.0	3	Det...	"L"H.	6	CI....	St....	M-G.....	IC....	None..	Th.S....	Fl. Pr.....	Gear..	Strom.....	Exh..	Vac...		
Lincoln.....	136	33x5	4290	Own....	8-3⅜x5	357.8	3	Det...	"L"H.	4	Al....	St....	Chain.....	OH....	T&S..	Pump...	Press.....	Gear..	Strom.....	Wat..	Vac...		
Locomobile.....Series 8	142	35x5	5330	Own....	6-4½x5½	525.0	4	Int...	"T"H.	2	CI....	St....	C-G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Ball & B..	Wat..	Press..		
Marmon.....34	136	32x4½	3800	Own....	6-3¾x5⅛	339.6	4	Det...	IH....	3	CI....	St....	N-M-G.....	IC....	None..	Pump...	Fl. Pr.....	Gear..	Strom.....	Exh..	Grav		
Maxwell.....	109	31x4	2250	Own....	4-3⅝x4½	185.0	3	Det...	"L"H.	4	Al....	CI....	N-M-G.....	IC....	None..	Th.S....	Press.....	Gear..	Stewart...	Exh..	Vac...		
McFarlan.....	140	33x5	4700	Own....	6-4½x6	572.0	4	Det...	"T"H.	3	Al....	CI....	M-G.....	IC....	None..	Pump...	Press.....	Gear..	Rayfield...	Wat..	Vac...		
Mercer.....Series 5	132	32x4½	3850	Own....	4-3⅜x6¾	298.0	4	Int...	"L"H.	4	Al....	.....	Chain.....	IC....	None..	Pump...	Fl. Pr.....	Gear..	Ball & B..	Exh..	Vac...		
Mercer.....Series 6	132	32x4½	3950	Own....	6-3⅜x5	331.3	3	Det...	IH....	6	Al....	St....	N-M-G.....	IC....	None..	Pump...	Fl. Pr.....	Gear..	Strom.....	Exh..	Vac...		
Merit.....B & C	119	32x4	2900	Cont....	6-3¼x4½	224.0	4	Det...	"L"H.	6	CI....	St....	M.G.....	IC....	None..	Pump...	Press.....	Gear..	Zenith.....	Exh..	Vac...		
Mitchell.....5-50	120	32x4	3166	Own....	6-3½x5	288.6	3	Det...	"L"H.	6	St....	St....	C.G.....	IC....	Ther..	Pump...	Sp. Pr.....	Pist..	Strom.....	Exh..	Vac...		
Mitchell.....5-50	127	32x4½	3325	Own....	6-3½x5	288.6	3	Det...	"L"H.	6	St....	St....	C.G.....	IC....	Ther..	Pump...	Sp. Pr.....	Pist..	Strom.....	Exh..	Vac...		
Monroe.....S-9-10-14	115	32x3½	2400	Own....	4-3¼x4½	141.0	3	Det...	IH....	4	Al....	CI....	C.G.....	IC....	None..	Th. S....	Press.....	Gear..	Zenith.....	Exh..	Vac...		
Moon.....6-40	115	31x4	2650	Cont....	6-3¼x4¼	195.6	3	Det...	"L"H.	6	CI....	St....	Chain.....	IC....	None..	Pump...	Press.....	Gear..	Strom.....	Exh..	Vac...		
Moon.....6-58	128	33x4½	3300	Cont....	6-3⅝x4½	242.0	3	Det...	"L"H.	6	CI....	St....	C.G.....	IC....	None..	Pump...	Press.....	Gear..	Strom.....	Exh..	Vac...		
Nash.....41-4	112	33x4	2720	Own....	4-3⅜x5	178.9	3	Det...	IH....	4	St....	St....	C.G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Scheb.....	Exh..	Vac...		
Nash.....691-2-6-7	121	33x4	3205	Own....	6-3½x5	248.9	3	Det...	IH....	6	CI....	St....	N-M-G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Marvel.....	Exh..	Vac...		
Nash.....692-4-5	127	34x4½	3290	Own....	6-3¼x5	248.9	3	Det...	IH....	6	CI....	St....	N-M-G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Marvel.....	Exh..	Vac...		
National.....6-71	130	32x4½	3780	Own....	6-3½x5¼	303.0	3	Det...	IH....	6	S.S..	St....	Chain.....	IC....	None..	Pump...	Press.....	Gear..	Rayfield...	E&W.	Vac...		
National.....6-51	121	32x4	3035	Cont....	6-3⅜x4½	241.6	3	Det...	"L"H.	6	CI....	St....	C.G.....	IC....	None..	Pump...	Press.....	Gear..	Strom.....	Exh..	Vac...		
National.....6-31	112	31x4	.....	Own....	6-	155.0	....	.....	.....	.....	.....	.....	.....	.....	.....	Th-S....	Sp. Pr.....	.....	.....	.....	Vac...		
Noma.....4C	128	33x5	3000	Cont††	6-3¼x4½	224.0	3	Det...	"L"H.	6	CI....	St....	N-M-G.....	IC....	None..	Pump...	Press.....	Gear..	Zenith.....	Exh..	Vac...		
Oakland.....6-44	115	32x4	2525	Own....	6-2 11/16x4¾	177.0	3	Det...	IH....	6	Al....	St....	Chain.....	IC....	None..	Pump...	Press.....	Gear..	Marvel.....	Exh..	Vac...		
Ogren.....DeLuxe	134	33x5	4000	Cont....	6-3⅝x5¼	325.0	3	Det...	"L"H.	6	CI....	St....	Chain.....	IC....	None..	Pump...	Press.....	Gear..	Strom.....	Exh..	Vac...		
Oldsmobile.....43A	115	32x4	2767	Own....	4-3 11/16x5¼	224.0	4	Det...	IH....	4	Al....	St....	M.G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Zenith.....	Exh..	Vac...		
Oldsmobile.....47	115	32x4	2810	Own....	8-2 7/16x4½	234.0	3	Det...	"L"H.	4	CI....	St....	N-M-G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	John.....	Exh..	Vac...		
Oldsmobile.....46	122	33x4½	3195	Own....	8-2 7/16x4¾	246.0	3	Det...	"L"H.	4	CI....	St....	N-M-G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Ball & B..	Exh..	Vac...		
Overland.....91	100	30x3½	2020	Own....	4-3⅜x4	143.1	....	Det...	"L"H.	4	CI....	.....	M-G.....	IC....	None..	Th.S....	Splash.....	None..	Till.....	Exh..	Grav..		
Packard.....133	133	33x4½	3535	Own....	6-3⅜x5	268.5	3	Det...	"L"H.	6	CI....	St....	Chain.....	IC....	Ther..	Pump...	Press.....	Gear..	Own.....	Exh..	Vac...		
Packard.....126	126	32x4½	3144	Own....	6-3⅜x5	268.5	3	Det...	"L"H.	6	CI....	St....	Chain.....	IC....	Ther..	Pump...	Press.....	Gear..	Own.....	Exh..	Vac...		
Packard.....Twin Six	136	35x5	4470	Own....	12-3 x5	424.1	4	Det...	"L"H.	6	CI....	St....	Chain.....	IC....	Ther..	Pump...	Press.....	Gear..	Own.....	Exh..	Press.		
Paige.....6-70	131	33x4½	3607	Cont....	6-3⅜x5	331.4	3	Det...	"L"H.	6	CI....	St....	Chain.....	IC....	Ther..	Pump...	Sp. Pr.....	Gear..	Rayfield...	Exh..	Vac...		
Paterson.....23-6-52	120	32x4½	3000	Cont....	6-3⅝x4½	242.0	3	Det...	"L"H.	6	CI....	St....	C.G.....	IC....	None..	Pump...	Press.....	Gear..	Strom.....	Exh..	Vac...		
Peerless.....23	128	33x5	3775	Own....	8-3¼x5	332.0	3	Int...	"L"H.	4	CI....	St....	C.G.....	IC....	None..	Pump...	Press.....	Gear..	Ball & B..	Exh..	Vac...		
Pierce Arrow.....	138	33x5	4590	Own....	6-4 x5½	414.0	3	Det...	"T"H.	6	CI....	St....	M-G.....	IC....	Ther..	Pump...	Fl. Pr.....	Gear..	Own.....	Wat..	Press..		
Pilot.....	126	32x4½	3360	H-S.....	6-3½x5	288.6	3	Det...	"L"H.	6	CI....	St....	M-G.....	IC....	Ther..	Pump...	Sp. Pr.....	Gear..	Tillot.....	Exh..	Vac...		
Premier.....Strattan	102	30x3½	.....	Own....	4-3 x4½	127.5	3	Int...	"L"H.	4	.....	.....	M-G.....	IC....	None..	Th-S....	.....	.....	Zenith.....	Exh..	Vac...		
Premier.....6-D	126½	32x4½	3865	Own....	6-3⅜x5½	295.0	4	Det...	IH....	6	Al....	St....	C.G.....	IC....	Ther..	Pump...	Press.....	Gear..	Strom.....	.....	Vac...		
Premocar.....6-40-A	117	32x4	2940	Falls....	6-3½x4¼	195.6	3	Det...	IH....	6	CI....	.....	M-G.....	IC....	None..	Th.S....	Sp. Pr.....	Gear..	Strom.....	Wat..	Vac...		
Princeton.....	128	32x4½	.....	Anst....	6-3⅝x5¼	281.8	4	Det...	IH....	6	.....	.....	.....	IC....	.....	Pump...	.....	.....	Rayfield...	.....	.....		
Princeton.....	132	33x5	.....	Anst....	6-3⅝x5¼	281.8	4	Det...	IH....	6	.....	.....	.....	IC....	.....	Pump...	.....	.....	Rayfield...	.....	.....		
R & V Knight.....R	116	32x4	3040	Own....	4-3¾x5	221.0	3	Det...	S.T...	4	CI....	None.	Chain.....	IC....	None..	Th.S....	Sp. Pr.....	Gear..	Strom.....	Exh..	Vac...		
R & V Knight.....H	124	32x4½	3700	Own....	6-3½x4½	260.0	3	Det...	S.T...	6	CI....	None.	Chain.....	IC....	None..	Th.S....	Sp. Pr.....	Gear..	Strom.....	Exh..	Vac...		
Reo.....T6	120	32x4	3230	Own....	6-3 1/16x5	239.0	4	Det...	"F"H.	6	Al....	St....	C.G.....	IC....	None..	Pump...	Sp. Pr.....	Pist..	Rayfield...	Exh..	Vac...		
Rickenbacker.....A	117	32x4	.....	Own....	6-3⅛x4¾	218.0	3	Det...	"L"H.	6	CI....	CI....	Chain.....	IC....	None..	Pump...	Press.....	Gear..	Strom.....	Exh..	Vac...		
Roamer.....6-54-E	128	32x4½	3700	Cont....	6-3½x5¼	303.0	3	Int...	"L"H.	6	Al....	St....	C.G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Strom.....	Exh..	Vac...		
Roamer.....4-75-E	128	32x4½	3700	Dues....	4-4¼x6	340.0	3	Int...	IH....	4	Al....	St....	Chain.....	IC....	None..	Pump...	Press.....	Gear..	Strom.....	Exh..	Vac...		
Roamer.....6-54-3	138	32x4½	4100	Cont....	6-3½x5¼	303.0	3	Int...	"L"H.	6	Al....	St....	C.G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Strom.....	Exh..	Vac...		
Rolls Royce.....	143½	33x5	4800	Own....	6-4½x4¾	456.0	4	Int...	"L"H.	3	Al....	St....	M-G.....	IC....	Shut..	Pump...	Press.....	Gear..	Own.....	Exh..	Press.		
Rubay.....	118	32x4	3100	Own....	4-2¾x5½	122.0	4	Det...	IH....	4	Al....	St....	M-G.....	OH....	None..	Pump...	Press.....	Gear..	Strom.....	Wat..	Vac...		
Sayers.....Six	118	33x4	2800	Cont....	6-3⅝x4½	241.6	3	Det...	"L"H.	6	CI....	St....	C-G.....	IC....	None..	Pump...	Press.....	Gear..	Strom.....	Exh..	Vac...		
Seneca.....50 & 51	112	31x4	2500	Lyc.....	4-3½x5	192.0	3	Det...	"L"H.	4	CI....	CI....	M-G.....	IC....	None..	Th.S....	Sp. Pr.....	Pist..	Zenith.....	Exh..	Vac...		
Seneca.....L2 & O2	108	30x3½	2380	Lyc.....	4-3½x5	192.0	3	Det...	"L"H.	4	CI....	CI....	M-G.....	IC....	None..	Th.S....	Sp. Pr.....	Pist..	Zenith.....	Exh..	Vac...		
‡‡Standard.....	127	34x4½	3750	Own....	8-3¼x5	331.8	3	Int...	"L"H.	4	CI....	St....	N-M-G.....	IC....	None..	Pump...	Press.....	Gear..	Zenith.....	Wat..	Vac...		
Stanley.....Steamer 740	130	32x4½	3550	Own....	2-4 x5	.....	....	Det...	.....	2	CI....	.....	.....	.....	None..	Pump...	Splash.....	Gear..	None.....	.....	Press..		
Star.....	102	30x3½	1735	Cont....	4-3⅛x4¼	130.4	4	Det...	"L"H.	4	CI....	CI....	Chain.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Till.....	Exh..	Vac...		
Stearns Knight.....SKL4	125	34x4½	.....	Own....	4-3¾x5⅝	248.0	4	Det...	S.T...	4	CI....	.....	Chain.....	IC....	None..	Pump...	Press.....	Gear..	Rayfield...	Wat..	Vac...		
Stearns Knight.....6	130	34x4½	3550	Own....	6-3⅜x5	268.0	3	Det...	S.T...	6	CI....	.....	Chain.....	IC....	None..	Pump...	Press.....	Gear..	Rayfield...	Wat..	Press..		
Stephens.....10	117	32x4	.....	Own....	6-3¼x4½	225.0	3	Det...	IH....	6	CI....	.....	C.G.....	IC....	None..	Th.S....	Press.....	Gear..	Strom.....	E&W.	Vac...		
Stephens.....20	124	33x4½	.....	Own....	6-3¼x4½	225.0	3	Det...	IH....	6	CI....	.....	C.G.....	IC....	None..	Th.S....	Press.....	Gear..	Strom.....	E&W.	Vac...		
Stevens-Duryea.....E	138	33x5	4250	Own....	6-4 7/16x5½	510.3	3	Int...	"L"H.	2	CI....	St....	C-G.....	IC....	Ther..	Pump...	Sp. Pr.....	Gear..	Strom.....	E&W.	Vac...		
Studebaker.....Light 6	112	31x4	2550	Own....	6-3½x4½	207.1	3	Det...	"L"H.	6	CI....	CI....	Chain.....	IC....	Ther..	Pump...	Sp. Pr.....	Gear..	Strom.....	Exh..	Vac...		
Studebaker.....Special 6	119	32x4	3155	Own....	6-3½x5	276.6	3	Det...	"L"H.	6	CI....	CI....	M-G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Strom.....	Exh..	Vac...		
Studebaker.....Big 6	126	33x4½	3310	Own....	6-3⅞x5	353.7	3	Det...	"L"H.	6	CI....	CI....	M-G.....	IC....	None..	Pump...	Sp. Pr.....	Gear..	Ball & B..	Exh..	Vac...		
Stutz.....4	130	32x4½	4070	Own....	4-4⅝x6	361.0	4	Det...	"T"H.	4	CI....	St....	M-G.....	IC....	None..	Pump...	Press.....	Gear..	Strom.....	Exh..	Press..		
Stutz.....6	120	32x4	.....	Own....	6-3⅜x5	268.0	4	Det...	IH....	6	.....	.....	Chain.....	IC....	None..	Pump...	Press.....	Gear..	Strom.....	Exh..	Vac...		
Tarkington.....	126½	32x4½	2800	Own....	6-3½x4½	259.8	4	Det...	IH....	3	CI....	St....	M-G.....	IC....	Tner..	Pump...	Press.....	Gear..	.....	Exh..	Vac...		
Velie.....58	115	32x4	2885	Own....	6-3⅛x4¼	195.6	3	Det...	IH....	6	CI....	St....	C-G.....	IC....	None..	Th.S....	Press.....	Gear..	Strom.....	Exh..	Vac...		
Washington.....C	119	32x4	2910	Cont....	6-3⅜x4½	241.0	3	Det...	"L"H.	6	CI....	St....	C-G.....	IC....	Ther..	Pump...	Press.....	Gear..	Zenith.....	.....	Vac...		
Westcott.....D-48	125	32x4½	3500	Cont....	6-3½x5¼	303.6	3	Int...	"L"H.	6	Al....	St....	C-G.....	IC....	None..	Pump...	Press.....	Pist..	Rayfield...	Exh..	Vac...		
Westcott.....C-44	120	32x4½	3050	Cont....	6-3⅜x4½	241.5	3	Det...	"L"H.	6	CI....	St....	C-G.....	IC....	None..	Pump...	Press.....	Gear..	Rayfield...	Exh..	Vac...		
Wills St. Claire.....A-68	121	32x4½	3115	Own....	8-3¼x4	265.0	4	Int...	IH....	4	CI....	St....	M-G.....	OH....	None..	Th.S....	Press.....	Gear..	Holley.....	E&W.	Vac...		
Wills St. Claire.....A-68	127	32x4½	3115	Own....	8-3¼x4	265.0	4	Int...	IH....	4	CI....	St....	M.G.....	OH....	None..	Th.S....	Press.....	Gear..	Holley.....	E&W.	Vac...		
Willys Knight.....	118	32x4	2975	Own....	4-3⅝x4½	185.8	....	Det...	S.T...	4	Al....	None.	Chain.....	IC....	None..	Th.S....	Sp. Pr.....	.....	Till.....	E&W.	Vac...		
Willys-Knight.....27	124	32x4½	3000	Own	4-3⅝x4½	185.8	....	Det...	S.T...	4	Al....	None.	Chain.....	IC....	None..	Th.S....	Sp. Pr.....	.....	Till.....	E&W.	Vac...		
Winton.....40	132	33x5	4050	Own....	6-3¾x3¼	348.0	4	Det...	"L"H.	2	CI....	St....	Chain.....	IC....	Ther..	Pump...	Press.....	Gear..	Rayfield...	Exh..	Vac...		

For abbreviations see pages 380-381.

Chassis Specifications—(Continued)

ELECTRICAL SYSTEM				TRANSMISSION							REAR AXLE						RUNNING GEAR									MAKE
Generator and Starter Make	IGNITION			CLUTCH		GEARSET			UNIVERSAL								SPRINGS		BRAKES		STEERING GEAR		Front Axle Make	Chassis Lubrication	Standard Type of Wheels†	
	Make	Current Source	Voltage	Make	Type	Make	Location	No. of Forward Speeds	Make	Type	Make	Type	Gear Ratio†	Propulsion Taken By	Torque Taken By	Final Drive	Type, Front	Type, Rear	Foot, Type and Location	Hand, Type and Location	Make	Type				
West...	A-K...	Bat...	6-8	Detr..	MDD.	Own..	UwE....	3	Univ....	F...	Col..	F...	4.58	TT.	TA.	SB...	½E.	Cant..	ExtRw..	IntRw..	Jac....	S&N....	Col..	PG...	O..	King
West...	A-K...	Bat...	6-8	Detr..	MDD.	Own..	UwE....	3	Univ....	F...	Col..	F...	4.88	TT.	TA.	SB...	½E.	Cant..	ExtRw..	IntRw..	Jac....	S&N....	Col..	PG...	O..	King
Remy...	Remy...	Bat...	6-8	.....	MDD.	.....	UwE....	...	Spicer...	M..	Timk..	F...	4.40	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	.....	S&N....	Timk.	OC...	A..	Kissel
Remy...	Remy...	Bat...	6-8	Warn.	MDD.	Warn.	UwE....	3	Spicer...	M..	Own..	F...	3.92	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Jac....	S&N....	.....		W..	‡‡Kissel
Wagner	Conn...	Bat...	6-8	B&B..	SP....	GL..	UwE....	3	Snead...	F...	Eaton.	½F.	4.75	S..	S...	SB...	½E.	¾E..	IntRw..	ExtRw..	Woh...	S&N....	Eaton.	PG...	A..	Kline Kar
West...	West....	Bat...	6-8	B&B..	SP....	GL..	UwE....	3	Snead...	F...	Salis..	¾F.	4.50	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Gem....	W&W...	Salis..	PG...	A..	Kurtz
Delco...	Delco...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Own....	M..	Own..	F...	4.58	TT.	TT.	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&S....	Own..	PG...	O..	LaFayette
Delco...	Delco...	Bat...	6-8	.....	MDD.	Own..	UwE....	3	Spicer...	M-F	Timk..	.....	.....	TT.	TA.	SB...	½E.	½E..	IntRw..	ExtRw..	Gem....	W&W....	.....		D..	‡‡Leach
Conn...	Bat...	6-8	Own..	MDD.	Warn.	UwE....	3	Snead...	F..	Salis..	¾F.	5.10	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	CAS....	W&W...	Salis.	OC...	A..	Lexington
Wagner	Bat...	6-8	B&B..	SP....	Detr..	UwE....	....	Spicer...	M..	Timk..	½F.	4.80	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Gem....	W&W...	Timk.	OC...	A..	Liberty
Delco...	Delco...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Spicer...	M..	Timk..	F...	4.58	TT.	TT.	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&S....	Timk.	PG...	A..	Lincoln
West...	Delco...	Bat..1	2-16	Own..	MDD.	Own..	SepU...	3	Own....	M..	Own..	F...	3.85	RR.	TA.	SB...	½E.	¾E..	ExtRw..	IntRw..	Own....	W&W...	Own..	PG...	A..	Locomobile
Delco...	Delco...	Bat...	6-8	Own..	MDD.	Own..	UwTT..	3	Spicer...	M..	Own..	¾F.	3.75	TT.	TT.	SB...	½E.	DTE..	ExtRw..	IntRw..	Own....	S&N....	Own..	PG...	O..	Marmon
Remy...	Remy...	Bat...	6-8	Own..	Cone..	Own..	UwE....	3	Own....	F...	Own..	½F.	4.60	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Own....	W&W...	Own..	PG...	D..	Maxwell
West...	West....	Bat...	6-8	M&E..	MDD.	BL..	SepU...	3	Peters..	M..	Timk.	F...	3.75	S..	TA.	SB...	½E.	½E..	ExtRw..	IntRw..	Gem....	W&W...	Timk.	OC...	O..	McFarlan
Lin...	Eisem...	Mag..	6-8	BL..	MDD.	BL..	SepU...	4	Spicer...	M..	.....	F...	3.87	S..	S...	SB...	½E.	½E..	IntDS..	IntRw..	Gem....	W&S....	Own..	PG...	A..	Mercer
Lin...	.....	Mag..	6-8	.....	MDD.	.....	.....	3	Spicer...	M..	.....	¾F.	3.77	S..	S...	SB...	½E.	½E..	IntDS..	IntRw..	Gem....	W&W...	Own..	PG...	A..	Mercer
Delco...	Delco...	Bat...	6-8	B&B..	SP....	Mun..	UwE....	3	Snead...	F...	Col..	¾F.	4.60	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Gem....	W&W...	Col..	PG...	A..	Merit
Remy...	Remy...	Bat...	6-8	B&B..	SP....	Own..	UwTT..	3	Own....	M..	Own..	F...	4.42	S..	TT.	SB...	½E.	Cant.	ExtRw..	IntRw..	Own....	W&W...	Own..	PG...	A..	Mitchell
Remy...	Remy...	Bat...	6-8	B&B..	SP....	Own..	UwTT..	3	Own....	M..	Own..	F...	4.42	S..	TT.	SB...	½E.	Cant.	ExtRw..	IntRw..	Own....	W&W...	Own..	PG...	A..	Mitchell
Lin...	Conn...	Bat...	6-8	B&B..	SP....	Mech.	UwE....	3	Univ....	M..	Own..	½F.	5.30	RR.	TA.	SB...	½E.	T¾E.	ExtRw..	IntRw..	CAS....	W&S....	Own..	.....	A..	Monroe
Delco...	Delco...	Bat...	6-8	B&B..	SP....	Warn.	UwE....	3	Spicer...	M..	Timk..	½F.	4.80	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Gem....	W&W...	Timk.	OC...	A..	Moon
Delco...	Delco...	Bat...	6-8	B&B..	SP....	BL..	UwE....	4	Spicer...	M..	Timk..	½F.	5.09	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Gem....	W&W...	Timk.	OC...	A..	Moon
Delco...	Delco...	Bat...	6-8	B&B..	SP....	Own..	UwE....	3	Own....	M..	Own..	½F.	4.89	S..	S..	SB...	½E.	½E..	ExtRw..	ExtDS..	Gem....	W&W...	Own..	OC...	A..	Nash
Delco...	Delco...	Bat...	6-8	B&B..	SP....	Own..	UwE....	3	Own....	M..	Own..	½F.	4.50	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Gem....	W&W...	Own..	OC...	A..	Nash
Delco...	Delco...	Bat...	6-8	B&B..	SP....	Own..	UwE....	3	Own....	M..	Own..	½F.	4.50	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Gem....	W&W...	Own..	OC...	A..	Nash
West...	Delco...	Bat...	6-8	B&B..	SP....	BL..	UwE....	3	Univ....	M..	Col..	F...	4.08	S..	TA.	SB...	½E.	½E..	ExtRw..	IntRw..	War....	W&W...	Col..	PG...	A..	National
Lin...	Own...	Bat...	6-8	B&B..	SP....	Covert	UwE....	3	Univ....	M..	Salis..	¾F.	4.50	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Own....	W&W...	Salis..	PG...	A..	National
.....	.....	Bat...	6-8	.....	SP....	.....	UwE....	3	.....	M..	.....	.....	4.60	S..	.....	.....	½E.	½E..	ExtRw..	ExtDS..	.....	.....	.....	.....	.....	National
Delco...	Delco...	Bat...	6-8	B&B..	SP....	Detr..	UwE....	3	Spicer...	M..	Timk..	½F.	4.45	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Lav....	W&S....	Timk.	PG...	W..	Noma
Remy...	Remy...	Bat...	6-8	Own..	Cone..	Mun..	UwE....	3	Mech....	M..	Own..	F...	4.66	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Jac....	S&N....	Own..	PG...	A..	Oakland
Bosch...	Mag..	6-8	Full...	MDD.	Full...	UwE....	3	Hart....	M..	Timk..	¾F.	4.08	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Ross....	W&S....	Timk.	PG...	W..	Ogren
Delco...	Delco...	Bat...	6-8	B&B..	SP....	Mun..	UwE....	3	Own....	M..	Own..	¾F.	4.70	S..	TT.	SB...	½E.	½E..	ExtRw..	IntRw..	Jac....	S&N....	Own..	PG...	A..	Oldsmobile
Delco...	Delco...	Bat...	6-8	B&B..	SP....	Mun..	UwE....	3	Own....	M..	Own..	¾F.	5.10	S..	TT.	SB...	½E.	½E..	ExtRw..	IntRw..	Jac....	S&N....	Own..	PG...	A..	Oldsmobile
Delco...	Delco...	Bat...	6-8	Own..	Cone..	Mun..	UwE....	3	Spicer...	M..	Own..	F...	4.92	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Jac....	S&N....	Own..	PG...	A..	Oldsmobile
Lin...	Conn...	Bat...	6-8	B&B..	SP....	Own..	UwE....	3	Own....	M..	Own..	½F.	4.50	TT.	TT.	SB...	Cant	Cant.	ExtRw..	IntRw..	Own....	Plan....	Own..	OC...	A..	Overland
K...	Delco...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Spicer...	M..	Own..	½F.	4.66	S..	TA.	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	S&N....	Own..	PG...	A..	Packard
K...	Delco...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Spicer...	M..	Own..	½F.	4.33	S..	TA.	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	S&N....	Own.	PG...	A..	Packard
ur...	Delco...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Spicer...	M..	Own..	½F.	4.36	S..	TA.	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	S&N....	Own.	GC...	A..	Packard
emy...	A-K...	Bat...	6-8	Long..	MDD.	Warn.	UwE....	3	Mech....	M..	Timk..	½F.	4.45	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Gem....	W&W...	Timk.	PG...	A..	Paige
elco...	Delco...	Bat...	6-8	B&B..	SP....	Durs..	UwE....	3	Hart....	M..	Salis..	¾F.	4.50	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Jac....	S&N....	Salis.	OC...	A..	Paterson
elco...	Delco...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Spicer...	M..	Timk..	½F.	4.90	S..	TA.	SB...	½E.	½E..	ExtRw..	IntRw..	Gem....	W&S....	Timk.	PG...	A..	Peerless
elco...	Delco...	Bat...	6-8	Own..	MDD.	Own..	SepU...	3	Spicer...	M..	Own..	½F.	4.29	S..	TA.	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	S&N....	Own.	PG...	A..	Pierce Arrow
ur...	Conn...	Bat...	6-8	Hoos..	MDD.	Mun..	UwE....	3	Hart....	M..	Col..	¾F.	4.33	S..	S...	SB...	½E.	½E..	IntRw..	ExtRw..	Ross....	W&S....	Col..	OC...	A..	Pilot
L...	A-L...	Bat...	6-8	Covert	MDD.	Covert	UwE....	3	.....	F...	.....	¾F.	.....	S..	S...	SB...	¼E.	¼E..	ExtRw..	IntRw..	Dit....	W&W....	.....	PG...	D..	Premier
elco...	Delco...	Bat...	6-8	B&B..	SP....	Own..	UwE....	3	Spicer...	M..	Timk..	½F.	4.58	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&W....	Timk.	PG...	A..	Premier
och...	Bosch...	Bat...	6-8	B&B..	MDD.	Detr..	UwE....	3	Spicer...	M..	.....	½F.	5.09	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Dit....	W&W....	Timk.	PG...	A..	Premecar
L...	A-L...	Bat...	6-8	Durs..	MDD.	.....	SepU...	3	Spicer...	M..	Own..	½F.	5.12	S..	TT.	SB...	½E.	½E..	ExtRw..	IntRw..	War....	W&W....	Own.	.....	A..	Princeton
L...	A-L...	Bat...	6-8	Durs..	MDD.	.....	SepU...	3	Spicer...	M..	Own..	½F.	5.12	S..	TT.	SB...	½E.	½E..	ExtRw..	IntRw..	War....	W&W....	Own.	.....	A..	Princeton
L...	Wagner	Bat...	6-8	B&B..	SP....	BL..	UwE....	3	Spicer...	M..	Salis..	F...	4.70	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Jac....	S&N....	Salis.	OC...	A..	R & V Knight
L...	A-L...	Bat...	6-8	B&B..	SP....	BL..	UwE....	3	Spicer...	M..	Timk..	½F.	5.40	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Jac....	S&N....	Timk.	OC...	A..	R & V Knight
E...	NE...	Bat...	6-8	Own..	MDD.	Own..	SepU...	3	Own....	M-F	Own..	½F.	4.70	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	BPS....	Own.	PG...	D..	Reo
ms.	A-K	Bat...	6-8	Own..	SP....	Warn.	UwE....	3	Univ....	M..	Col..	¾F.	4.63	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Gem....	W&W....	Col..	PG...	D..	Rickenbacker
st...	Split...	Mag..	6-8	B&B..	SP....	GL..	UwE....	3	Snead...	F...	Timk..	½F.	4.45	S..	S...	SB...	½E.	Cant.	ExtRw..	IntRw..	Jac....	S&N....	Timk.	PG...	W..	Roamer
st...	Split...	Mag..	6-8	BL..	MDD.	BL..	UwE....	3	Snead...	F...	Timk..	½F.	4.08	S..	S...	SB...	½E.	Cant.	ExtRw..	IntRw..	Jac....	S&N....	Timk.	PG...	W..	Roamer
st...	Split...	Mag..	6-8	B&B..	SP....	GL..	UwE....	3	Snead...	F...	Timk..	½F.	4.45	S..	S...	SB...	½E.	Cant.	ExtRw..	IntRw..	Jac....	S&N....	Timk.	PG...	W..	Rolls Royce
ur...	Bosch...	Mag..	2-16	Own..	Cone..	Own..	SepU...	4	Own....	M..	Own..	F...	3.25	TT.	TT.	SB...	½E.	Cant.	IntRw..	IntRw..	Own....	S&N....	Own.	PG...	A..	Rubay
och...	Bosch...	Bat...	6-8	Own..	SP....	Own..	UwE....	3	Univ....	M..	Own..	F...	5.10	TT.	TA.	SB...	½E.	½E..	IntR&F.	IntRw..	Own....	W&W....	Own.	PG...	A..	Sayers
co...	Delco...	Bat...	6-8	B&B..	SP....	GL..	UwE...	3	Arvac...	M..	Eaton.	½F.	4.75	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Lav....	W&W....	Eaton.	OC...	A..	Seneca
L...	A-L...	Bat...	6-8	B&B..	SP....	GL..	UwE....	3	Univ....	M..	Peru.	F...	4.50	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Dit....	W&S....	Peru.	PG...	A..	Seneca
L...	A-L...	Bat...	6-8	B&B..	SP....	GL..	UwE....	3	Univ....	M..	Peru.	F...	4.75	S..	TA.	SB...	½E.	Cant.	ExtRw..	IntRw..	Dit....	W&S....	Peru.	GC...	A..	Seneca
t...	Split...	Mag..	6-8	B&B..	SP....	GL..	UwE....	3	Arvac...	M..	Timk..	½F.	4.45	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&W....	Timk.	.....	A..	‡‡Standard
ur...	None....	.....	6-8	None..	.....	None..	.....	...	None....	.....	Own..	½F.	1.50	S..	S...	.....	½E.	Ell...	ExtRw..	IntRw..	Ross....	S&N....	Eaton.	PG...	A..	Stanley
L...	A-L...	Bat...	6-8	Own..	SP....	Warn.	SepU...	3	Spicer...	M..	Timk..	¾F.	4.87	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	War....	W&W....	Timk.	OC...	A..	Star
t...	A-K...	Bat..1	2-16	Own..	MDD.	Own..	UwE....	3	Climax..	F...	Own..	½F.	4.50	S..	TA.	SB...	Ell.	Cant.	ExtRw..	IntRw..	Own....	W&W....	Own.	OC...	A..	Stearns-Knight
t...	A-K...	Bat..1	2-16	Own..	MDD.	Own..	UwE....	3	Climax..	F...	Own..	½F.	4.70	S..	TA.	SB...	½E.	Cant.	ExtRw..	IntRw..	Own....	W&W....	Own.	OC...	A..	Stearns-Knight
co...	Delco...	Bat...	6-8	B&B..	SP....	Mech.	UwE....	3	Mech....	M..	Timk..	½F.	4.66	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Gem....	W&W....	Timk.	PG...	A..	Stephens
co...	Delco...	Bat...	6-8	B&B..	SP....	Mech.	UwE....	3	Mech....	M..	Timk..	½F.	5.50	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Gem....	W&W....	Timk.	PG...	A..	Stephens
ol...	Bring...	Mag..	6-8	Own..	MDD.	Own..	UwE....	3	Own....	M..	Own..	F...	3.93	S..	TT.	SB...	½E.	¾E..	ExtRw..	IntRw..	Own....	W&S....	Own.	PG...	A..	Stevens-Duryea
my...	Remy...	Bat...	6-8	Own..	SP....	Own..	SepU...	3	ThH....	F...	Own..	½F.	4.55	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&S....	Own.	PG...	A..	Studebaker
my...	Remy...	Bat...	6-8	Own..	SP....	Own..	SepU...	3	Spicer...	M..	Own..	½F.	4.33	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&S....	Own.	PG...	A..	Studebaker
my...	Remy...	Bat...	6-8	Own..	SP....	Own..	SepU...	3	Spicer...	M..	Own..	½F.	3.71	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&S....	Own.	PG...	A..	Studebaker
my...	Delco...	Bat...	6-8	Warn.	MDD.	Own..	UwA....	3	Hart....	M..	Own..	¾F.	3.75	TT.	TT.	SB...	½E.	½E..	IntRw..	IntRw..	Gem....	W&W....	Eaton.	OC...	W..	Stutz
my...	Remy...	Bat...	6-8	.....	SP....	.....	.....	3	.....	.....	Own..	½F.	.....	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	.....	.....	.....	PG...	O..	Stutz
co...	Delco...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Own....	M..	Own..	½F.	4.08	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Jac....	S&N....	Own..	PG...	A..	Tarkington
t...	A-K...	Bat...	6-8	Dooley	SP....	Durs..	UwE....	3	Thiem...	M..	Own..	½F.	4.66	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Gem....	W&W....	Own..	PG...	A..	Velie
ur...	Remy...	Bat...	6-8	B&B..	SP....	Warn.	UwE....	3	Blood...	M..	Col..	¾F.	4.67	S..	TA.	SB...	½E.	Cant.	ExtRw..	IntRw..	Ross....	S&N....	Col..	.....	A..	Washington
co...	Delco...	Bat...	6-8	B&B..	SP....	BL..	UwE....	3	Peters..	M..	Timk.	½F.	4.45	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Gem....	W&W....	Timk.	OC...	A..	Westcott
co...	Delco...	Bat...	6-8	B&B..	SP....	Warn.	UwE....	3	Peters..	M..	Col..	½F.	4.90	S..	S...	SB...	½E.	½E..	ExtRw..	ExtDS..	Gem....	W&W....	Col..	OC...	A..	Westcott
co...	Delco...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Own....	M..	Eaton.	½F.	4.45	S..	TT.	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&W....	Eaton.	PG...	D..	Wills St. Claire
co...	Delco...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Own....	M..	Eaton.	½F.	4.45	S..	TT.	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&W....	Eaton.	PG...	D..	Wills St. Claire
L...	A-L...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Own....	F...	Own..	¾F.	4.44	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&W....	Own..	PG...	A..	Willys-Knight
L...	A-L...	Bat...	6-8	Own..	MDD.	Own..	UwE....	3	Own....	F...	Own..	¾F.	4.44	S..	S...	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&W....	Own..	PG...	A..	Willys-Knight
co...	Delco...	Bat...	6-8	Warn.	MDD.	Warn.	UwE....	3	Climax..	F...	Timk.	½F.	4.58	S..	TA.	SB...	½E.	½E..	ExtRw..	IntRw..	Own....	W&W....	Timk.	PG...	A..	Winton

abbreviations see pages 380-381.

Electric Passenger

MAKE AND MODEL	GENERAL								BATTERY						PERFORMANCE	
	Body Type	Number of Passengers	Price Complete	Price Without Battery	Wheel base (Ins.)	Tread (Ins.)	Tire Size (Ins.)	Weight Complete (Lbs.)	Make	Model	Price	Voltage	Ampere Hour Capacity	Location	Miles per Charge with Full Load	Speed with Full Load (M.P.H.)
Detroit.....90	Coupe.....	4	$2800	$2575	100	56	32x4	....	Phila.....	WTXI.....	$114	84	153	½UH & ½RC...	80–100	25
Detroit.....91-3	Brougham...	5	3500	3250	100	56	32x4½	3950	Phila.....	WTXI.....	435	84	175	½UH & ½RC...	80–100	25
Milburn.....27-L	Brougham...	5	2235	....	105	55	33x4	3080	Phila.....	13-WTXI...	....	80	153	½UH & ½RC...	70–90	24
Rauch & Lang.....S-66	Sedan.....	4	4250	....	102	56	32x4½	....	Exide‡....	Special.....	....	....	175–200	½UH & ½RC...	60–100	25
Rauch & Lang.....B-66	Brougham...	4	4250	....	102	56	32x4½	....	Exide‡....	Special.....	....	....	175–200	½UH & ½RC...	60–100	25
Rauch & Lang.....C-55	Coach.....	5	4250	....	102	56	33x4½	....	Exide‡....	Special.....	....	....	175–200	½UH & ½RC...	60–100	25

ABBREVIATIONS:
BATTERY:
Phila—Philadelphia
‡—Make Optional

½ U. H. and ½ R. C—½ under hood and ½ rear compartment
MOTOR:
Elw.-Par—Elwell-Parker

Gen. Elec—General Electric
Unit with J. S—Unit with Jackshaft

Unit with R. A—Unit with rear axle
CONTROLLER:
Under S—Under seat

Gasoline Rail

MAKE AND MODEL	GENERAL										ENGINE					ELECTRICAL SYSTEM					
	Passenger Capacity	WEIGHT		Wheel Base (ins.)	GAGE		OVERALL DIMENSIONS		Height to Top of Frame at Dash (ins.)	NORMAL SPEED		Make	No. of Cylinders Bore and Stroke	Rated H.P. (N.A.C.C.)	R.P.M. at Normal Track Speed	Location	Ignition System Make	Generator Make	Starter Make	Battery Make	Voltage	Ampere Hours Capacity
		Chassis Only (lbs.)	Body Allowance (lbs.)		Standard (ins.)	Optional (ins.)	Length	Width		Forward (M.P.H.)	Reverse (M.P.H.)											
Bowen.....	43	20000	10000	264	56½	...	41'4"	8'3"	34	40	20	MidW...	4-4¾x6	36.10	.....	F ins B.	L-N...	L-N....	L-N.....	Gen.....	12-16	
Four Wheel.....D	25	8500	4000	156	56	42	26'0"	8'6"	48	30	30	Wisc....	4-5¼x5½	42.03	1350	F ins B.	Nor-E..	Nor-E...	Nor-E...	Willd...	12-16	
Four Wheel.....D	25	8500	4000	156	56	42	26'0"	8'6"	48	30	30	Wisc....	6-5x5½	60.00	1350	F ins B.	Nor-E...	Nor-E...	Nor-E...	Willd...	12-16	
Four Wheel.....D	65	12000	8000	Opt...	56	36	Opt.....	Opt.....	36	40	40	Wisc....	6-5x5½	60.00	1350	F out B	Nor-E...	Nor-E...	Nor-E...	Willd...	12-16	
Indiana.....	48	10000	8000	246½	56½	...	32'0"	10'0"	....	30	30	Own...	4-4⅜x5½	30.63	1800	F out B	Eisem...	Remy..	Remy..	Willd...	6-8	
†M. A. C.....4-40	5	13000	None.	114	56½	36	22'0"	8'0"	33	20	20	Buda...	4-4½x6	32.40	900	F out B	Bosch...	Bosch..	Bosch...	Exide...	6-8	
Mack.....A-B	31	11675	4650	198	56½	36	28'8"	.....	.....	30	.....	Own....	4-4½x5	28.90	1475	F out B	Split....	L-N....	L-N....	Exide...	12-16	
Mack.....A-C	35	20000	7000	264	56½	...	34'4"	.....	.....	35	.....	Own....	4-5 x6	40.00	1030	F out B	Split....	L-N....	L-N....	West....	12-16	
Meister.....R-28	28	10400*	.....	234	56	36	31'6"	10'0"	34	42	42	MidW...	4-4¾x6½	35.10	1000	R ins B.	Berl....	L-N....	L-N....	West....	12-16	
Meister.....	30	10400*	.....	234	56	36	31'6"	10'0"	14	42	42	Midw...	4-4¾x6½	35.10	1000	R out B	Berl....	L-N....	L-N....	West....	12-16	
Service.....	32	.....	.....	160	56½	.....	.....	.....	....	30	.....	Buda...	4-4¼x5½	28.90	.....	F out B	Eisem...	West....	West....	Willd...	6-8	
Service.....	38	28000	.....	266	.....	.....	42'6"	8'4"	....	35	30	Buda...	4-4¾x6	36.10	1500	F ins B.	Eisem.	West....	West....	Exide...	12-16	
White.....S-R	38	35000	9000	245	56½	....	31'6"	9'6"	42	23½	15	Own...	4-4¼x5¼	28.90	1500	F ins B.	L-N ...	L-N....	L-N....	Willd...	12-16	

ABBREVIATIONS:
†—Industrial Type
*—Weight Includes Body
Opt—Optional

ENGINE:
Midw—Midwest

Wisc—Wisconsin
F. ins. B.—Front inside Body
R. ins. B.—Rear inside Body
F. out B.—Front outside Body
R. out B.—Rear outside Body

ELECTRICAL SYSTEM:
Eisem—Eisemann
Berl—Berling
L-N—Leece-Neville
West—Westinghouse
Willd—Willard
Gen—General
Nor-E.—North-East

CLUTCH:
Borg & B.—Borg & Beck
B-L—Brown-Lipe
M. D. D.—Multiple Dry Disk
M. D. O.—Multiple Disk in Oil
Sin. P.—Single Plate

GEARSET:
Warn—Warner
B-L—Brown-Lipe
U. w. E.—Unit with Engine
U. w J.—Unit with Jackshaft
Sp. U.—Separate Unit

American Taxi

MAKE AND MODEL	Wheel Base (Ins.)	Tire Size†	Weight of Standard Cab (Lbs.)	ENGINE										COOLING		LUBRICATION		FUEL SYSTEM	
				Make	No. of Cylinders Bore and Stroke	Piston Displacement in Cu. Ins.	Point Suspension	Cylinder Head	Valve Arrangement	No. Cylinders Cast in One Block	Piston Material	Valve Head Material	Camshaft Drive	Camshaft Location	Controlled by	Water Circulation	Type of System	Type of Pump	Carbureter Make	Intake Heated By
Checker Cab.....	117	32x4½	4100	Buda...	4-4¾x5½	226.0	3	Det...	"L"H.	4	C.I...	St....	M-G.....	LC...	None.	Pump...	Press.....	Gear..	Zenith....	Exh...
Driggs.....	108½	30x3½	2200	Own....	4-2⅝x4½	108.7	....	Det...	"L"H.	4	.....	.....	.....	LC...	None.	Th S....	Splash.....	Gear..	Zenith....	Exh...
Elcar.....4	112	31x4	.....	Lyc....	4-3½x5	192.4	3	Det...	"L"H.	4	C.I...	C.I...	M-G.....	LC...	None.	Pump...	Splash....	Pist..	Strom....	Exh...
Elcar.....6	118	32x4	.....	Cont....	6-3¼x4½	224.0	3	Det...	"L"H.	6	C.I...	St....	M-G.....	LC...	None.	Pump...	Press.....	Gear..	Strom....	Exh...
R. & L.....T	112	32x4	3000	Buda...	4-3⅜x5⅛	226.4	3	Int...	"L"H.	4	C.I...	St....	M-G.....	LC...	None.	Th.S....	Press.....	Gear..	Zenith....	Exh...
††R. & L.....	102	33x4½	.....	Own....	Electric..	....	....	....	....	....	....	....	.....	....	....	....	....	....	None.....	....
Reo.....V	113	33x4½	3465	Own....	4-4½x4½	240.0	....	Int...	"F"H.	2	Al.....	.....	C-G.....	LC...	None.	Pump...	Sp.Pr.....	Pist..	John.....	Exh...
Yellow Cab.....	109	33x4½	3830	Cont....	4-3¾x5	220.9	3	Int...	"L"H.	4	C.I...	.....	M-G.....	LC...	None.	Th.S....	Sp.Pr.....	Ecc...	Zenith....	Exh...

††—Electrically driven
†—On standard models
**—Optional at extra cost
‡—Generator supplied only
*—High Tension Magneto optional equipment
Cont—Continental
Lyc—Lycoming

Det—Detachable
Int—Integral
"L" H—Both valves at side
"F" H—Valves in head and side
Al—Aluminum
CI—Cast Iron
St—Steel
M-G—Metal Gear

CG—Combination Metal and Non-Metallic Gear
I. C.—In Crankcase
Th. S.—Thermo siphon
Press—Pressure to all bearings excluding wrist pins
Sp. Pr.—Splash with pressure to main crankshaft bearings

Pist—Piston
Ecc—Eccentric
Strom—Stromberg
John—Johnson
Exh—Exhaust
Grav—Gravity
Vac—Vacuum
N. E.—North East

West—Westinghouse
Bat—Battery
Mag—Magneto
B&B—Borg & Beck
B-L—Brown-Lipe
Detr—Detroit
Full—Fuller
Mun—Muncie

Car Specifications

MOTOR					CONTROLLER			DRIVE					SPRINGS			
Make	Model	Number	Total Horse Power	Location	Make	Location	Number of Forward Speeds	Type of Final Drive	Type of Rear Axle	Total Reduction (Motor to Wheels)	Propulsion Taken by	Torque Taken by	Type Front	Type Rear	Wheels (Standard Equipment)	MAKE AND MODEL
Ew-Par	22-17	1	3	Unit with J.S.	Own	Under S.	5	....	¾Float	....	Springs	Springs	½Ell.	½Ell.	Art	Detroit-90
Ew-Par	31-20	1	3	Unit with J.S.	Own	Under F.	5	....	¾Float	....	Tor.arm	Tor.arm	½Ell.	¾Ell.	Wire	Detroit-91-3
Gen. Elec.	1085	1	4	Unit with R.A.	Own	Under S.	4	Worm	¾Float	9.75	Springs	Tor.tube	½Ell.	F.Ca.	Wire	Milburn-27-L
Own	....	1	3½	Unit with R.A.	Own	Under S.	5	Worm	¾Float	8.60	Springs	Tor.arm	½Ell.	½Ell.	Art	Rauch & Lang-S-66
Own	....	1	3½	Unit with R.A.	Own	Under S.	5	Worm	¾Float	8.60	Springs	Tor.arm	½Ell.	½Ell.	Art	Rauch & Lang-B-66
Own	....	1	3½	Unit with R.A.	Own	Under S.	5	Worm	¾Float	8.60	Springs	Tor.arm	½Ell.	¾Ell.	Art	Rauch & Lang-C-55

Under F—Under floor

DRIVE:
¾ Float—¾ Floating

Tor. Arm—Torque arm
Tor. Tube—Torque tube

SPRINGS:
½ Ell—½ Elliptic
¾ Ell—¾ Elliptic

F. Ca—Floating Cantilever

WHEELS:
Art—Artillery

Car Specifications

CLUTCH		GEARSET					DRIVING TRUCK					PONY TRUCK			BRAKES			SPRING SUSPENSION		MAKE AND MODEL
Make	Type	Make	Location	No. of Forward Speeds	No. of Reverse Speeds	Final Drive to Axle	Location	No. of Wheels	No. of Driving Wheels	Diameter of Wheels (ins.)	Axle Bearings, Type	No. of Wheels	Diameter of Wheels (ins.)	Axle Bearings Type	Service. Type and Location	Emergency, Type and Location	Sanders	Driving Truck, Location and Type	Pony Truck, Location and Type	
Warn.	M.D.D.	Warn.	UwE.	4	4	.....	Rear.	6	2	.....	Pla.	4	24	Pla.	{ABoptSW HLoptSW	HLoptSW.	Air.C.	Long.½Ell	Coil & Ell.	Bowen
Hele-S.	M.D.O.	Co	UwJ.	3	1	St. B.	F & R.	4	4	36	Roll.	.....	.....	.....	ABoptSW	HLoptFD.	Grav.	Long.FEll.	Long F Ell.	Four Wheel-D
Hele-S.	M.D.O.	Co	UwJ.	4	4	St.B.	F & R.	4	4	36	Roll.	.....	.....	.....	ABoptSW	HLoptFD.	Grav.	Long F Ell	Long F Ell.	Four Wheel-D
Hele-S.	M.D.O.	Cotta.	UwJ.	4	4	St.B.	F & R.	8	4	36	Roll.	.....	.....	Roll.	{ABoptSW HLoptSW	HLoptFD.	Grav.	Long F Ell	Long F Ell.	Four Wheel-D
Borg&B.	Sin.P.	B-L.	SpU.	4	4	Worm.	Rear.	6	2	33	Ball.	4	20	Pla.	.....	.....	Press.	Coil& ½Ell	Long ½Ell.	Indiana
B-L.	M.D.O.	B-L.	SpU.	4	4	Dr.R.	F & R.	4	4	24	Ball.	.....	.....	Ball.	{ABoptSW HLoptSW	HLoptSW	Press.	Long ½Ell	Long ½Ell.	M. A. C.-4-48
Own.	M.D.O.	Own.	UwE.	4	4	Dr.R.	Rear.	2	2	38	Roll.	4	20	Roll.	ABoptSW	HLoptSW.	Press.	Long½Ell.	Long ½Ell.	Mack-A-B
Own.	Sin.P.	Own.	SpU.	4	4	St.B.	Rear.	2	2	40	Roll.	4	20	Roll.	ABoptSW	HLoptSW.	Press.	Long½Ell.	Long ½Ell.	Mack-A-C
B-L.	M.D.D.	B-L.	UwE.	3	3	Worm.	Rear.	4	4	36	Ball.	4	18	Ball.	ABoptSW	HLoptSW.	Press.	Hel-Coil.	Hel-Coil.	Meister-R-28
B-L.	M.D.D.	B-L.	UwE.	4	4	Worm.	Rear.	2	2	36	Ball.	4	18	Ball.	ABoptSW	HLoptSW.	Press.	Hel-Coil.	Hel-Coil.	Meister
Borg&B.	Sin.P.	Warn.	SpU.	4	.....	Worm.	Rear.	2	2	32	Roll.	4	.....	Roll.	ABoptSW	HLoptSW.	Grav.	Long½Ell.	Long ½Ell.	Servce
B-L.	M.D.O.	B-L.	UwE.	6	3	St.B.	Front.	4	4	30	Roll.	4	30	Roll.	ABoptSW	HLoptSW.	Grav.	Trans ½Ell	Trans ½Ell.	Service
Own.	Sin.P.	Own.	UwE.	3	1	Dr.R.	Rear.	2	2	40	Ball.	4	20	Pla.	FBontDS.	HLoptSW.	Grav.	Long½Ell.	Coil & ½Ell	White-S-R

DRIVING AND PONY TRUCKS
St. B.—Straight Bevel
Dr. R.—Double Reduction
F. & R.—Drives on Front & Rear Wheels
Pla—Plain
Roll—Roller

BRAKES:
A B Opt. S W—Air Brake Operating Shoes on Wheels
F B Opt. D S—Foot Brake Operating on Drive Shaft
H L Opt. S W—Hand Lever Operating Shoes on Wheels
H. L. Opt. F. D.—Hand Lever Operating on Friction Drums

SANDERS:
Press—Pressure
Grav—Gravity
Air C—Air Controlled

SPRING SUSPENSION:
Hel. Coil—Helical Coil
Long ½ Ell.—Longitudal Semi-Elliptic
Trans. ½ Ell.—Transverse Semi-Elliptic
Coil & ½ Ell.—Coil and Transverse Semi-Elliptic

cab Specifications

ELECTRICAL SYSTEM				TRANSMISSION						REAR AXLE						RUNNING GEAR								MAKE
IGNITION SYSTEM				CLUTCH		GEARSET			UNIVERSAL							SPRINGS		BRAKES		STEERING GEAR				
Generator and Starter Make	Make	Current Source	Voltage	Make	Type	Make	Location	No. of Forward Speeds	Make	Type	Make	Type	Gear Ratio†	Propulsion Taken By	Torque Taken By	Final Drive	Type. Front	Type. Rear	Foot. Type and Location	Hand. Type and Location	Make	Type	Front Axle Make	Chassis Lubrication	Standard Type of Wheels†	
West.	Bosch	Mag.	6-8	Full.	MDD.	Full.	Uw.E.	3	Blood.	M.	Col.	¾F.	4.87	S.	S.	S.B.	½E.	½E.	Ext-.	Int-Rw.	Jones.	S.&N.	Col.	P.G.	D.	Checker Cab
Bosch**	Bosch	Mag.	6-8	Full.	MDD.	Full.	Uw.E.	3			Own.	¾F.					½E.	½E.					Own.	P.G.	D.	Driggs
Delco	Delco*	Bat.	6-8	B&B.	S.P.	Mun.	Uw.E.	3	Peters.	M.	Salis.	¾F.	4.50	S.	S.	S.B.	½E.	½E.	Ext-Rw.	Int-Rw.	Fost.	W.&S.			D.	Elcar
Delco	Delco*	Bat.	6-8	B&B.	S.P.	Warn.	UwE.	3	Spicer.	M.	Salis.	¾F.	4.75	S.	S.	S.B.	½E.	½E.	Ext-Rw.	Int-Rw.	Gem.	W.&S.			D.	Elcar
Dynetot	Bosch	Mag.	6-8	Detr.	S.P.	Detr.	Uw.E.	3	Spicer.	M.	Eat.	½F.	5.10	S.	S.	S.B.	½E.	½E.	Ext-Rw.	Ext-DS.	Gem.	W.&W.	Eat.	P.G.	D.	R. & L.
	None			None.		None.		5			Own.				W.		½E.	½E.	Int-Rw.	Ext-DS.	Gem.	W.&W.		P.G.	A.	R. & L.
N.E.	N.E.	Bat.	6-8	Own.	MDD.	Own.	S.U	3	Own.	M-F	Own.	¾F.	4.70	S.	T.A.	S.B.	½E.	½E.	Ext-Rw.	Int-Rw.	Own.	B. P&S.	Own.	P.G.	D.	Reo
Bosch	Bosch	Mag.	6-8	B-L.	MDO.	B-L.	Uw.E.	3	Spicer.	M.	Timk.	½F.	4.90	S.	S.	S.B.	½E.	½E.	Ext-Rw.	ExtDS.	Gem.	W.&W.	Timk.s	P.G.	A.	Yellow Cab

Warn—Warner
MDD—Multiple Dry Disk
MDO—Multiple Disk in Oil
S. P.—Single Plate
S. U.—Separate Unit
Uw.E.—Unit with Engine
M—Metal

M-F—Metal & Fabric
Col—Columbia
Eat—Eaton
Salis—Salisbury
Timk—Timken
¾ F—Three Quarter Floating
½ F—Semi Floating

S—Springs
T. A.—Torque Arm
S. B.—Spiral Bevel
W—Worm
½ E—Semi Elliptic
ExtRW—External Rear Wheels

IntRW—Internal Rear Wheels
ExtDS—External Drive Shaft
Fost—Foster
Gem—Gemmer
S. & N.—Screw & Nut

W. & S.—Worm & Sector
W. & W.—Worm & Wheel
B,P&S—Bevel, Pinion and Sector
P. G.—Pressure Gun
D—Disk
A—Artillery

American Passenger Car Export Specifications

(Applying To Standard Phaeton Model)

MAKE AND MODEL	Number of Passengers	COMPLETE AUTOMOBILE BOXED		CHASSIS BOXED		MAGNETO		RIGHTHAND DRIVE		Make of Metric Speedometer	Metric Gasoline Gauge Fitted?	WHEEL OPTIONS				COLORS		TIRES		
												WIRE		DISK						
		Cubical Contents (Cu. Ft.)	Extra Charge	Cubical Contents (Cu. Ft.)	Extra Charge	Make	Extra Charge	Fitted?	Extra Charge			Fitted?	Extra Charge	Fitted?	Extra Charge	Options	Extra Charge	Size (mm. or Ins.)	Rim Type	Tire Type
American D-66	4	359	$80			Bosch	$75	Yes	$30	Van Sic	No	Yes	$100	Yes	$160	3 Colors	None	610x105	S.S.	Cord
Anderson 50	7	450	65			Bosch	35	Yes	25	Stewart	No	Yes	75	Yes	85	Yes	None	33x4	S.S.	Cord
Apperson 8-23-5	7	415	100	370		No		Yes	50	Van Sic	No	Yes	125	Yes	125	Yes	$75	34x4½	S.S.	Cord
Auburn 6-58	5	364	100	290		Bosch	55	Yes	None	Stewart	No	Yes	100	No		Yes	50	33x3½	S.S.	Cord
Buick 23-35	5	314	52	145			None	Yes	9	Stewart	No	Yes	39	No		Black & Blue	Yes	31x4	S.S.	Cord
Buick 23-49	7	349	55	169		Bosch	Yes	Yes	17	Stewart	No	Yes	68	No		Blue & Gray	Yes	34x4½	S.S.	Cord
Buick 23-45	5	334	53	163		Bosch	Yes	Yes	14	Stewart	No	Yes	62	No		Green & Gray	Yes	33x4	S.S.	Cord
Buick 23-55	4	349	61			Bosch	Yes	Yes	30	Van Sic	No		68	Yes	30			32x4½	S.S.	Cord
Cadillac 61	7	418	85	250		None		Yes	90	Van Sic	Yes	Yes	135	Yes	Yes	Green	Yes	33x5	S.S.	Cord
Chalmers 1923	7	343	50	336		Bosch	35	Yes	None	Stewart	No	Yes	None	Yes	None	Yes	25	815x120	S.S.	Fab
Chandler Six	4	399	75	368	$75	Bosch	None	Yes	None	‡Ste.-War	No	Yes	70	Yes	Yes	Blue & Green	None	33x4	S.S.	Cord
Chevrolet Superior	5	192	35	94		Simms	Yes	Yes	7	Stewart	No	Yes	45	No		Black & Gray	Yes	30x3½	C	Fab
Cleveland 42	5	340	70	292	70	Bosch	32	Yes	None	Van Sic	No	Yes	Yes	Yes	Yes	No	None	32x4	S.S.	Cord
Cole 890	7	462	100	336	85	No		No		Stewart	No	Yes	None	Yes	None	Red & Blue	None	33x5	S.S.	Cord
Columbia Standard	5	340	Yes			Bosch	Yes	Yes	None	Stewart	No	Yes		Yes		Blue		815x105		Cord
Columbia Light Six	5	347	Yes				Yes	Yes	None		No	Yes		Yes		Blue & Black		31x4		Cord
Courier	5	325	70	325	60	Bosch	50	Yes	None	Stewart	Yes	Yes	None	Yes	None	5 Colors	None	32x4	S.S.	Cord
Cunningham V-4	6	640	Yes			No		No		Yes	No	Yes	None	Yes	75	Optional	None			Cord
Davis 71	5	330	75	265	60	No		Yes	None	‡Ste.-War	No	No		Yes	None	Blue	None	585x105	S.S.	Cord
Dodge Brothers	5	311	34	284	34	Eisemn	Yes	Yes	None	North East	No	No		Yes	Yes	No		32x4	S.S.	Cord
Dorris 6-80	7		125			Bosch		No		Van Sic		Yes	225	Yes	140	Yes	Yes	33x5	S.S.	Cord
Dort 19-14	5					Bosch		Yes	None	Stewart	No	Yes	Yes	Yes		No		31x4	S.S or C	Cord
Duesenberg 8	5–7		150		150		None	No		No	No	Yes	None	No		Yes	100	895x135	S.S.	Cord
Durant A-22	5	266	45	168	35	Simms	45	Yes	20	Stewart	No	Yes	30	No		No		31x4	S.S.	Fab
Earl 40	5	350	50		45	Splitdf	35	Yes	None	‡Ste.-War	No	Yes	40	Yes	40	No		32x4	S.S.	Cord
Elgin K-1	5	324	75	240	65	Bosch	35	Yes	25	Van Sic	No	Yes	35	Yes	35	Yes	35	33x4	S.S.	Cord
Essex	5	318	Yes	318				Yes		‡Ste.-War	No	Yes	Yes			2 Colors		32x4	S.S.	Cord
Ford T	5	262	Yes	129		Yes	None	No			No	No		No		No		30x3½	C	Fab
Franklin Series 10	5	389½	75	286	60	No		No		Waltham	No	Yes	60	Yes		Yes	75	32x4	S.S.	Cord
Gardner T-R & G	5	310	60	123	50	Bosch	50	Yes	None	Stewart	No	No		Yes	25	No		32x4	S.S.	Cord
Hanson 66	5		75			Bosch	50	Yes	None	Stewart	Yes	Yes	100	Yes	100	5 Colors	None	31x4	S.S.	Cord
H. C. S. 4	4	330	100					No			No	Yes		Yes		5 Colors	No	32x4½	S.S.	Cord
Haynes 57	5	447	90	350	85	Bosch	65	Yes	15	‡Ste.-War	Yes	Yes	90	Yes	250	Optional	100	33x4	S.S.	Cord
Haynes 77	7	492	90	380	85	Bosch	65	Yes	15	‡Ste.-War	Yes	Yes	90	Yes	250	Optional	100	34x4½	S.S.	Cord
Holmes 4	4		100	400		Eisemn	None	No		Stewart	Yes	Yes		No		Blue		34x4½	S.S.	Cord
Hudson Super 6	7	393	Yes	370				Yes		‡Ste.-War	No	Yes	Yes			2 Colors		34x4½	S.S.	Cord
Hupmobile R	5	322	60			Splitdf	Yes	Yes		‡Ste.-War	No	Yes	Yes	Yes	Yes	2 Colors		32x4	S.S.	Cord
Jordan H	4	372	100	295	100	Bosch	50	No		‡Ste.-War	No	Yes	80	Yes	35	Blue	None	32x4½	S.S.	Cord
Jordan MX	5	386	100	314	100	None		No		‡Ste.-War	No	Yes	80	Yes	35	2 Colors	None	32x4	S.S.	Cord
King L	7	420		380		Splitdf	75	Yes	None	Yes	No	Yes	50	No	No	Green-Blue	25	32x4½	S.S.	Cord
Kissel 45	5	466	110	404		Bosch	50	Yes	None	Stewart	Yes	Yes	125	Yes	200	Green	100	32x4½	S.S.	Cord
Lexington 23	5–7	340	90		60	Bosch	60	Yes	None	Stewart	Yes	Yes	100	Yes	100	3 Colors	None	32x4½	S.S.	Cord
Liberty 10-D	5	280	50	246		Berling	65	Yes	35	Stewart	Yes	No		Yes	None	5 Colors	None	32x4	S.S.	Cord
Lincoln	407	489	97			No		No		Waltham	No	Yes	Yes	Yes	Yes	3 Colors	None	33x5	S.S.	Cord
Locomobile 48	5–7	490	110	450		No		No		‡Ste.-War	Yes	Yes	275	Yes	300	Optional	None	35x5	S.S.	Cord
Marmon 34	2–7	526	110	433		No		Yes	None	Van Sic	Yes	Yes	130	No		Optional	125	32x4½	S.S.	Cord
Maxwell 5	5	331	45	331		Bosch	27	Yes	None	Stewart	No	Yes	None	Yes	None	No		31x4	S.S.	Cord
McFarlan 1923	7	575	150		75	Splitdf	None	Yes	None	‡Ste.-War	No	Yes	None	Yes	None	Optional	None	35x5	S.S.	Cord
Mercer 5	4	485	70	365	70	Eisemn	None	No		Stewart	No	Yes	150	Yes		4 Colors	None	32x4½	S.S.	Cord
Mercer 6	7	485	115	390	115	Eisemn	None	Yes	100	Waltham	No	Yes	No	No	No	6 Colors	None	32x4½	S.S.	Cord
Mitchell F-50	5	374	65	215	60	Bosch	75	Yes	None	Stewart	No	Yes	80	Yes		2 Colors	None	815x105	Optional	Cord
Moon 6-58	5	360	65	275		Bosch	35	Yes	None	Stewart	No	Yes	75	Yes	90	2 Colors	None	32x4½	S.S.	Cord
Moon 6-40	5	325	65	260	50			Yes	None	Stewart	No	Yes	50	Yes	35	Blue	None	31x4	Optional	Cord
Nash 691	5		60		50	Bosch	40	Yes	25	Stewart	No	Yes	50	No		Gray-Blue		33x4	S.S.	Cord
Nash 692	7		60		50	Bosch	40	Yes	25	Stewart	No	Yes	50	No		Gray-Blue		34x4½	S.S.	Cord
Nash 41	5		60		50	Bosch	40	Yes	25	Stewart		Yes	50	No		Gray-Blue		33x4	S.S.	Cord
National 6-71	7	488	100	407		Bosch	None	Yes	200	Warner	No	Yes	75	Yes	125	Optional	85	32x4½	S.S.	Cord
Noma 4-C	4				75		Yes	Yes	100	Stewart	No	Yes	No	Yes	Yes	Optional	50	33x5	S.S.	Cord
Oakland 6-44	5	317	52	141		Bosch	Yes	Yes	15	Stewart	No	Yes	68	No		Green-Gray	None	32x4	S.S.	Cord
Oldsmobile 43-A	5	351	49	203		No		Yes	10	Stewart	No	No		Yes	28	Blue-Red	None	32x4	S.S.	Cord
Overland 91	5	272	44	108		Bosch	50	Yes		Stewart	No	No	Yes	No	Yes	Black	No	30x3½	C	Cord
Packard 6-126	5	487	75	400		No		Yes	100	Waltham	No	Yes	Yes	Yes	Yes	Optional	Yes	33x4½	S.S.	Cord
Packard 6-136	7	504	75	450		No		Yes	100	Waltham	No	Yes	Yes	Yes	Yes	Optional	Yes	33x4½	S.S.	Cord
Packard 12	5–7	558	90	447		No		No		Waltham	No	Yes	170	Yes	140	Optional	Yes	35x5	S.S.	Cord
Paterson 22-6-52	5	393	65					Yes		Warner	No	Yes	100	Yes	110	3 Colors	None	32x4½	S.S.	Cord
Pierce-Arrow	4–7	527	130	473	115			No		Waltham	No	Yes	230	Yes	230	Yes	None	33x5	S.S.	Cord
Pilot 6-50	7	406	90			No		Yes	None	Stewart		Yes	105	Yes	135	6 Colors	55	32x4½	S.S.	Fab
Premier 6-D	7	396	90	325		No		Yes	None	Warner	No	Yes	125	Yes	170	3 Colors	None	32x4½	S.S.	Cord
R. E. O. T-6	7	325	50					No		North East	No	Yes	100	Yes	None	3 Colors	None	33x4	S.S.	Cord
Reamer 6-54-E	7		90			Bosch	None	Yes	25	Warner	Yes	Yes	None	Yes	75	Optional	None	820x120	S.S.	Opt
Sayers DP	5	350	90			Bosch	75	Yes	55	Stewart	No	Yes	125	Yes	150	3 Colors	30	33x4	S.S.	Cord
Stanley Steamer 740	5–7	470	105	440		No		No		Van Sic	No	Yes	Yes	No		Yes	Yes	32x4½	S.S.	Cord
Stephens 20	4	364	90	289		Bosch	50	Yes	25	Stewart	No	Yes	125	No		Red-Blue		33x4½	S.S.	Cord
Studebaker Light Six	5	307	Yes		Yes	Bosch	Yes	Yes	None	Yes	No	Yes	Yes	Yes	Yes	Gray	Yes	31x4	S.S.	Cord
Studebaker Special Six	7	407	Yes		Yes	Dixie	Yes	Yes	None	Yes	No	Yes	Yes	Yes	Yes	Blue	None	33x4½	S.S.	Cord
Studebaker Big Six	5	383	Yes		Yes	Dixie	Yes	Yes	None	Yes	No	Yes	Yes	Yes	Yes	Blue	None	32x4	S.S.	Cord
Stutz 4	6	444	102		102	No		Yes	None	Stewart		Yes	None	Yes	Yes	Blue & Red		32x4½	S.S.	Cord
Velie 58	5	373	65	206	55	Dixie	35	Yes	None	Stewart	No	Yes	50	Yes	30	No	None	32x4	S.S.	Cord
Wills St. Claire A-68	5	372	75	286				No		Yes	No	No		Yes		3 Colors		32x4½		Cord
Willys-Knight 20	5	330	43	330	43	Bosch	50	Yes	None	Stewart	No	Yes	50	Yes		Blue		32x4	S.S.	Fab
Willys-Knight 27	7	357	45	342	45	Bosch	50	Yes	None	Stewart	No	Yes	50	Yes		No		32x4½	S.S.	Cord
Westcott L-44	5	435	75			Bosch	75	Yes	None	Van Sic	No	No		Yes	100	2 Colors	50	32x4½	S.S.	Cord
Westcott D-48	7	475	75				75	No		Van Sic	No	Yes	125	Yes	100	2 Colors	50	32x4½	S.S.	Cord
Winton 40	7	520		425				Yes	75	‡Ste.-War	No	Yes	100	Yes	200	5 Colors	Yes	35x5	S.S.	Cord

ABBREVIATIONS: Eisemn—Eisemann, **Splitdf**—Splitdorf, **Van Sic**—Van Sicklen, **‡Stew-War**—Stewart-Warner. These speedometers may be either of the Stewart or Warner type. **S. S.**—Straight Side, **C**—Clincher.

British Design Shows Marked Trend Toward Overhead Valve Engines

Unit power plants increase in number. Aluminum pistons common on new models. Four-cylinder 60-100 cu. in. engine dominates English industry. Splash lubrication makes gain in popularity.

By M. W. Bourdon

A MARKED increase in the number of overhead valve engines, more unit power plants in cars up to 12 hp. and a wider use of aluminum for pistons and rear axles are some of the outstanding features of British passenger car design for 1923. The accompanying specifications table also shows a large percentage of new models, mainly in the light car class.

There is a tendency to increase the average size of engine for small chassis, notwithstanding the fact that in a few cases new models have been introduced with smaller four-cylinder engines than any previously found in British cars. It is believed that there is a market for light cars with engines of any size ranging from 60 up to 120 cu. in. piston displacement, and while some makers have gone out for the larger sizes, others believe that there is a better scope in the smaller types.

A few firms have put forward six-cylinder light cars, but it is generally believed that these will find only a small demand. The average light car user is now looking for economy in first cost as well as in upkeep; refinement in running he is not prepared to pay for, and a four-cylinder engine does all he wants. The small sixes may appeal to a small class of people who have previously used luxury cars but are now compelled for one reason or another to cut down expenses.

Without question, the small car with a four-cylinder 60-100 cu. in. engine dominates the British motor industry. The 15 to 20 hp. five-passenger car has, nevertheless, a large following among makers and users, but it is not, strangely enough, the cheaper makes of this type which find the biggest demand.

The new overhead valve engines are without exception of the pushrod type, and the reason can be ascribed to popular preference. The advantages of the overhead camshaft engine at high engine speeds are admitted, but the drawbacks attached to its maintenance and its susceptibility to erratic lubrication have counted against it.

Almost half the number of new models have overhead valves; taking all models, 31 per cent have them, as compared with 24 per cent last year. No overhead camshaft engines have been dropped but pushrods have advanced from 54 to 77 per cent in overhead valve operation. F-head engines (inlet over exhaust) have been increased by Humbers adopting this type for three models, while additional models by Daimler and Argyll have increased the percentage of sleeve valves, the former using the Knight design and the latter the Burt-McCollum (single sleeve). L-head cylinders constitute 58 per cent of the total, a drop of 11 per cent from last year.

The four-cylinder engine continues to predominate, being used in 76 per cent of models, and in 96 per cent of these the cylinders are cast as a block. Sixes are block cast in 57 per cent, pairs being next in favor, threes being represented in 18 per cent, while separate cylinders with an overhead camshaft occur in one model, the Straker-Squire. The largest new model is a four, viz., the 30 hp. Vauxhall, and this has the original chassis with a new engine of 259 cu. in. The biggest new six is the Rolls-Royce Twenty (192 cu. in.).

Eighty-one per cent of engines have the cylinders separate from the crankcase, approximately the same as twelve months ago. Unit power plants are becoming more popular in the smaller sizes, being represented by 46 per cent of all models as against 28 per cent last year.

The increasing popularity of aluminum pistons is not evident by considering the percentages of all models; it is made known rather by their prevalance in new engines and of these approximately 46 per cent have the light alloy. The slipper type, which at one time showed signs of becoming popular, has receded from 5 per cent to 2 per cent in the year. The most popular type of aluminum piston is the straight-sided design with an axially split skirt and internal expansion ring.

Helical Gears for Camshaft Drives

The drives of camshafts in the crankcase have varied a great deal in popularity during the past few years. For a while gear drives gave way to the silent chain, the latter reaching the zenith of its popularity in 1921 when it was represented in 60 per cent of engines; helical gears were then receding in favor, though straight toothed pinions were gaining after being at a very low ebb. The latter have not continued to make headway, though they appear in a number of new models, and chain drives have receded in favor of helical gears.

Counterweighted crankshafts are gaining but are still rare. One maker only (Vauxhall) uses the Lanchester harmonic balancer.

Thermo-siphon water circulation has again increased, and 58 per cent of engines now have no pump; the increase is almost wholly due to the preponderance of small engines among the new models. Air cooling has made no headway and still appears only on two cylinder models of the light car class. Oil-cooled engines have slightly increased. Control of the cooling water temperature is to be found on appreciably more British cars

(*Continued on page* 392)

British Passenger Car

MAKE	Rated H. P.	Wheelbase (Ins.)	Tread (Ins.)	Tire Size (Ins.)	ENGINE: No. of Cylinders	Bore and Stroke (Ins.)	Piston Displacement (Cu. Ins.)	No. of Point Suspension	Cylinders: Head	Cyl. Type Valve Arrangement	No. Cast in One Block	Cast With Upper Half of Crank Case	Piston Material	Valve Material	Camshaft: Location	Camshaft: Drive	Cooling	Oiling System
A. B. C.	12	100	47	28x3½	2	3 6x3.6	73	4	Det.	I.	1	Sep.	CI.	CCh.	CC.	SG.	Ar.	Sp.
A. C.	12	106	46	26x3	4	2.7x3.9	91	3	Det.	L.	4	Sep.	Al.		CC.	Ch.	Th.	PS.
A. C.	16	110	45	26x3	6	2.5x3.9	122	4	Det.	I.	4	Unit.	CI.		CC.	Ch.	Pu.	Pr.
Albert	12	114	49	30x3½	4	2.7x4.0	88	4	Det.	I.	6	Unit.	Al.		CC.	Ch.	Th.	Pr.
Albert	14	114	54	30x3½	4	2.9x4.3	118	4	Det.	I.	4	Unit.	Al.		CC.	Ch.	Th.	Pr.
Alvis	10	110	49	30x3½	4	2.5x4.3	88	4	Int.	L.	4	Sep.	Al.	Ni.	CC.	HG.	Th.	PS.
Alvis	12	110	49	30x3½	4	2.6x4.3	97	4	Int.	L.	4	Sep.	Al.	Ni.	CC.	HG.	Th.	Pr.
Argyll	12	108	48	30x3½	4	2 6x4.0	91	4	Det.	S.	4	Sep.	CI.		CC.	Ch.	Th.	PS.
Argyll	15	120	53	32x4½	4	3 1x5.1	158	3	Det.	S.	4	Sep.	CI.		CC.	SG.	Pu.	Pr.
Ariel	9	91	46	26x3	2	3.3x3.4	61	3	Int.	L.	1	Sep.	CI.	Ni.	CC.	Ch.	Th.	Sp.
Armstrong Siddeley	18	120	51	32x4	6	2.7x4.1	144	4	Int.	I.	3	Sep.	CI.	NC.	CC.	Ch.	Pu.	Pr.
Armstrong Siddeley	30	135	56	32x4½	6	3.5x5.2	303	4	Int.	I.	3	Sep.	CI.	NC.	CC.	Ch.	Pu.	Pr.
Arrol Johnston	16	120	56	32x4½	4	3.1x5.1	159	4	Det.	L.	4	Sep.	CI.	Ni.		Ch	Th.	Pr.
Ashton Evans	11	96	48	28x3	4	2.6x4.3	91	4	Det.	L.	4	Sep.	CI.	Ni.	CC.	Ch.	Pu.	Pr.
Aster	18	126	56	32x4½	4	2.7x4.5	158	4	Det.	L.	6	Sep.	Al.	NC.	CC.	HG.	Th.	Sp.
Austin	7	75	40	26x3	6	2.1x3.0	42	3	Det.	I.	4	Unit.	Al.		CC.	Ch.	Pu.	Pr.
Austin	12	112	52	30x4	4	2.8x4.0	100	3	Det.	L.	4	Sep.	Al.		CC.	Ch.	Pu.	Pr.
Austin	20	130	56	32x4½	4	3.7x5.0	220	3	Det.	L.	4	Sep.	Al.					
B. A. C.	10	96	44	28x3½	4	2.6x4.3	91	4	Int.	L.	4	Sep.	Al.	Ni.	CC.	Ch.	Th.	Pr.
Bayliss Thomas	8	99	46	26x3	4	2.3x3.7	66	4	Det.	I.	4	Sep.	Al.	Ni.	CC.	HG.	Th.	Pr.
Bayliss Thomas	10	99	46	26x3	4	2.6x4.3	91	3	Int.	L.	4	Sep.	CI.	Ni.	CC.	HG.	Th.	Pr.
Bean	12	102	49	30x3½	4	2.7x4.7	109	4	Int.	L.	4	Sep.	CI.	Ni.	CC.	Ch.	Th.	FP.
Beardmore	11	114	50	30x3½	4	2.7x4.5	100	3	Det.	I.	4	Sep.	CI.	Ni.	OH.	SB.	Th.	PS.
Belsieze	9	99	46	28x3	2	3.3x4.7	83	4	Det.	L.	1	Sep.	CI.	Ni.	CC.	Ch.	Ol.	Pr.
Belsieze	12	111	48	30x3½	4	2.7x5.1	118	3	Det.	F.	1	Sep.	CI.	Ni.	CC.	Ch.	Ol.	Sp.
Belsieze	15	116	54	32x4	4	3.5x4.3	170	3	Int.	L.	4	Sep.	CI.	Ni.	CC.	Ch.	Pu.	Pr.
Bentley	16	117	56	32x4½	4	3.1x5.8	183	3	Int.	I.	4	Sep.	Al.		OH.	SB.	Pu.	Pr.
Blackburn	20	129	56	32x4½	4	3.5x5.0	193	4	Det.	L.	4	Sep.	CI.	T.	CC.	HG.	Pu.	Pr.
B. S. A.	10	96	48	26x3	2	3.5x3.3	65	4	Int.	I.	1	Sep.	Al.		CC.	SG.	Ar.	Sp.
B. S. A.	11	106	48	28x3½	4	2.6x4.1	88	4	Det.	S.	4	Sep.	AS.		CC.	Ch.	Pu.	Sp.
B. S. A.	12	111	48	28x3½	6	2.3x3.7	93	4	Det.	S.	6	Sep.	Al.		CC.	Ch.	Pu.	Sp.
Calcott	10	93	45	28x3	4	2.5x4.3	89	4	Int.	L.	4	Sep.	CI.	Ni.	CC.	Ch.	Th.	Sp.
Calcott	12	102	45	28x3½	4	2.7x4.3	99	4	Int.	L.	4	Sep.	CI.	Ni.	CC.	Ch.	Th.	Sp.
Calcott	14	111	48	30x4	4	2.9x4.7	129	4	Int.	L.	4	Sep.	CI.	Ni.	CC.	Ch.	Th.	Sp.
Calcott	10	102	48	28x3½	4	2.5x3.7	76	4	Int.	L.	4	Sep.	Al.	NCh.	CC.	Ch.	Th.	PS.
Calthorpe	12	106	48	30x3½	4	2.7x3.9	91	6	Int.	L.	4	Sep.	Al.	NCh.	CC.	Ch.	Pu.	PS.
Calthorpe	12	114	50	30x3½	4	2.7x4.7	110	3	Int.	L.	4	Sep.	CI.	Tu.	CC.	HG.	Th.	PS.
Carrow	10	102	48	28x3	4	2.5x3.7	73	4	Int.	L.	4	Sep.	CI.		CC.	Ch.	Th.	Sp.
Castle	10	98	45	28x3½	4	2.5x4.3	88	4	Det.	L.	4	Sep.	CI.	Ni.	CC.	HG.	Th.	Pr.
Charron Laycock	10	96	45	28x3½	4	2.5x4.3	88	4	Int.	L.	4	Sep.	CI.	Ni.	CC.	SG.	Th.	Pr.
Cluley	12	108	50	28x3½	4	2.7x4.3	99	4	Int.	L.	2	Sep.	CI.	Ni.	CC.	SG.	Th.	Pr.
Cluley	10	102	46	28x3	4	2.6x3.9	83	4		L.	4	Sep.	CI.		CC.		Th.	Sp.
Clyne	10	102	48	28x3	4	2.5x3.9	76	4	Det.	L.	4	Unit.	CI.		CC.	Ch.	Th.	PS.
Corona	10	96	46	26x3	4	2.5x3.4	67	3	Det.	I.	4	Unit.	CI.		CC.	SG.	Th.	Sp.
Coventry Premier	14	108	54	30x3½	4	3 1x4.7	145	3	Det.	L.	4	Sep.	Al.	Ni.	CC.	Ch.	Th.	Sp.
Crossley	19	124	54	32x4½	4	3.5x5.9	225	4	Det.	L.	4	Sep	Al.	Ni.	CC.	Ch.	Pu.	Pr.
Crossley	25	135	54	36x4½	4	4 0x5.5	276	3	Int.	L.	2	Sep.	CI.	Ni.	CC.	Ch.	Pu.	Pr.
Crossley	12	102	45	28x3	4	2.7x3.9	91	3	Det.	L.	4	Sep.	Al.		CC.	Ch.	Th.	Pr.
Crouch	8	102	45	28x3	2	3.3x3.9	76	4	Det.	I.	1	Sep.	Al.		CC.	SG.	Th.	Sp.
Crouch	40	148	56	34x5	6	4 0x5.5	413	3	Det.	I.	4	Sep.	Al.	Tu.	OH.	Wm.	Pu.	Pr.
Crown Ensign	16	126	54	32x14	4	3.1x5.5	171	4	Det.	L.	4	Unit.	CI.		CC.	HG.	Th.	PS.
Cubitt	12	117	50	30x4	6	2.3x3.7	93	4	Det.	S.	6	Sep.	Al.		CC.	Ch.	Pu.	Sp.
Daimler	16	129	52	32x4½	6	2.6x4.1	132	4	Det.	S.	6	Sep.	Al.		CC.	Ch.	Pu.	Sp.
Daimler	21	136	57	32x4½	6	2.9x4.5	184	4	Det.	S.	6	Sep.	Al.		CC.	Ch.	Pu.	Sp.
Daimler	30	141	57	36x5	6	3.5x5.1	302	4	Det.	S.	2	Sep.	Al.		CC.	Ch.	Pu.	Sp.
Daimler	45	146	57	36x6	6	4.3x5.1	452	4	Det.	S.	2	Sep.	Al.		CC.	Ch.	Th.	Sp.
Daimler	10	91	45	26x3	4	2.5x3.9	77	4	Int.	T.	4	Unit.	CI.	Ni.	CC.	SG.	Th.	Sp.
Day Leeds	10	96	46	28x3	4	2.4x3.5	66	4	Int.	L.	4	Sep.	CI.	NC.	CC.	Ch.	Th.	Pr.
Deemster	12	96	46	28x3½	4	2.7x3.9	91	4	Det.	L.	4	Sep.	Al.	NC.	CC.	Ch.	Th.	Pr.
Deemster	10	108	48	30x3½	4	2.5x4.6	90	3	Int.	L.	4	Sep.	CI.		CC.	Ch.	Th.	Pr.
Enfield Allday	12	114	52	30x3½	4	2.7x4.6	107	3	Int.	L.	4	Sep.	CI.		CC.	Ch.	Th.	Pr.
Enfield Allday	12	114	54	28x3½	4	2.7x4.7	109	3	Det.	I.	4	Sep.	CI.	Ni.	CC.	HG.	Th.	PS.
Ensign	9	100	48	28x3	4	2.3x3.7	66	4	Int.	L.	4	Sep.	Al.	Ni.				
Eric Longden	10	112	49	28x3½	4	2.6x4.3	93	3	Det.	L.	4	Sep.	CI.	Ni.	CC.	Ch.	Th.	FP.
Galloway	10	98	41	28x3	2	3.3x3.8	66	3	Det.	L.	1	Sep.	CI.	CCh.	CC.	SG.	Ar.	Sp.
G. N.	10	98	41	28x3	4	2.4x3.6	67	4	Det.	I.	4	Sep.	CI.	CCh.	CC.	Ch.	Th.	Pr.
G. N.	20	130	56	32x4½	8	2.8x4.9	248	4	Det.	L.	4	Sep.	Al.		CC.	Ch.	Pu.	Pr.
Guy	11	106	48	28x3½	4	2.6x3.9	83	3	Det.	L.	4	Unit.	CI.		CC.	Ch.	Th.	Sp.
G.W.K.	8	86	42	28x3	4	2.1x3.9	58	3	Det.	I.	4	Sep.	Al.		CC.	Ch.	Th.	Sp.
Gwynne	9	96	48	28x3	4	2.5x3.9	76	4	Det.	I.	4	Unit.	CI.		CC.	HG.	Th.	PS.
Hampton	11	108	48	28x3½	4	2.7x4.7	109	4	Det.	I.	4	Sep.	CI.		CC.	HG.	Th.	PS.
Hampton	10	99	46	28x3	4	2.5x3.9	76	4	Int.	L.	4	Sep.	CI.		CC.	Ch.	Th.	Pr.
Hands	14	114	50	32x3½	4	2.9x4.7	129	4	Det.	L.	4	Sep.	CI.	NCh.	CC.	Ch.	Pu.	Sp
H. E.	11	102	48	28x3½	4	2.5x4.7	97	4	Det.	L.	4	Sep.	Al.		CC.	HG.	Th.	Sp.
Hillman	8	94	46	28x3	4	2.2x3.9	60	4	Det.	F.	4	Unit.	Al.		CC.	HG.	Th.	Sp.

ABBREVIATIONS:

CYLINDER HEAD:
Det—Detachable
Int—Integral

VALVE ARRANGEMENT:
I.—At Side
I.—In Head
F—In Head and Side
S—Sleeve Type
T—At each side

CYLINDERS AND CRANKCASE:
Sep—Cast Separately
Unit—Cast in One Piece

PISTON MATERIAL:
CI—Cast Iron
Al—Aluminum

VALVE MATERIAL:
Ni—Nickel Steel
Ch—Chromium
C—Cobalt Alloy
Tu—Tungsten Steel
CCh—Cobalt Chrome
NCh—Nickel Chrome

CAMSHAFT LOCATION:
CC—In Crankcase
OH—Overhead

CAMSHAFT DRIVE:
Ch—Chain
HG—Helical Gears
SG—Spur Gear
SB—Spiral Bevel Gears
Ec—Eccentric Rods
BV—Straight both Bevel Gears
Wm—Worm Gears
CB—Chain and Bevel Gear

COOLING SYSTEM:
Th—Thermo Siphon
Pu—Pump
Ar—Air
Ol—Oil Cooled

LUBRICATON:
Sp—Splash
Pr—Pressure (in most cases to all crankshaft bearings)
PS—Pressure to main bearings, splash to other parts
FP—Pressure to all bearings

INLET MANIFOLD HEATED BY:
E—Exhaust
W—Water

FUEL FEED:
Pr—Pressure
Gr—Gravity
Vac—Vacuum

IGNITION:
Type:
M—Magneto
B—Battery
M. B.—Magneto and Batt

Chassis Specifications

ENGINE			IGNITION SYSTEM			TRANSMISSION									RUNNING GEAR					
Fuel System										Rear Axle					Springs		Brakes			
Carburetor Make	Inlet Manifold Heated By	Fuel Feed	Current Source	Make	Voltage	Clutch Type	Gearset Location	No. of Forward Speeds	Universal Joint Type	Type	Final Drive	Gear Ratio	Propulsion Taken By	Torque Taken By	Front: Type	Rear: Type	Hand Type and Location	Foot Type and Location	Steering Gear Type	Wheels Type
Zenith	E	Gr	M	Fellowes	6	SP	SU	4	F	¾F	SB	4.5	TT	TT	¼	¼	I-RW	E-RW	SN	D
Solex	E	Gr	M	Fellowes	6	SP	UA	3	FM	FF	W	4.5	TT	TT	¼	¼	E-P	I-RW	WW	D
Solex	W	Gr	M	Watford	12	SP	UA	3	FM	FF	W	4.0	TT	TT	¼	¼	E-P	I-RW	SN	D
Claudel	W	Gr	M	Fellowes	6	SP	SU	4	F	FF	SB	4.5	TT	TT	½	Ct	I-RW	I-RW	WS	HS
Claudel	W	Vac	M	Fellowes	6	SP	SU	4	F	FF	SB	4.5	TT	TT	½	Ct	I-RW	I-RW	WS	HS
Solex	W	Gr	M		12	Co	SU	4	F	FF	SB	4.3	Sp	Sp	½	½	I-RW	I-RW	WW	HS
Solex	W	Gr	M		12	Co	SU	4	F	FF	SB	4.3	Sp	Sp	½	½	I-RW	I-RW	WW	HS
Solex	W	Gr	M	M.L	12	SP	UE	4	F	FF	SB	4.5	Sp	Sp	½	½	I-RW	I-RW	WW	D
Zenith	W	Vac	M	B.T.H	12	SP	UE	4	M	FF	SB	4.3	TT	TT	½	Ct	I-RW	I-RW	WW	D
Cox	W	Gr	M	M.L	6	SP	UT	3	F	½F	SB	5.0	TT	TT	¼	¼	I-RW	I-RW	WW	D
Claudel	E	Gr	M	B.T.H	12	MD	UT	3	M	¾F	SB	4.7	TT	TT	½	Ct	I-RW	I-RW	WW	D
Claudel	E	Gr	M	B.T.H	12	MD	UT	3	M	¾F	SB	3.7	TT	TT	½	Ct	I-RW	I-RW	WW	D
Cox	W	Vac	M		12	SP	UE	4	M	¾F	SB	4.5	TT	TT	½	½	I-RW	I-RW	WS	HS
Cox	E	Gr	M	M.L	12	Co	SU	3	F	FF	SB	4.0	RR	TA	Tr	Tr	I-RW	I-RW	WW	HS
Zenith	W	Pr	B	Blic	12	SP	UE	4	M	½F	SB	4.2	TT	TT	½	Ct	I-RW	I-RW	SN	HS
	E	Gr	M		6	SP	UE	3	M	½F	SB	4.5	Sp	Sp	Tr	¼	I-FW	I-RW	WW	Wr
	E	Vac	M		6	SP	UE	4	F	½F	SB	5.1	Sp	Sp	½	½	E-P	I-RW	WW	Opt
	E	Vac	M		12	SP	UE	4	M	½F	SB	4.9	Sp	Sp	½	½	E-P	I-RW	WW	W
Zenith	E	Gr	M	B.T.H	6	IC	UE	4	F	½F	SB	4.3	Sp	Sp	½	½	I-RW	I-RW	WW	D
Vici	W	Gr	M	Fellowes	6	IC	UE	3	F	FF	SB	4.5	RR	TA	¼	¼	I-RW	I-RW	WW	D
Zenith	E	Gr	M	Fellowes	6	IC	UE	3	F	FF	SB		RR	TA	¼	¼	I-RW	I-RW	WW	D
Zenith		Gr	M	B.T.H	12	IC	SU	4	M	½F	SB	4.0	Sp	Sp	½	½	I-RW	I-RW	WW	HS
Zenith	E	Gr	M	Lucas	12	SP	UE	4	M	¾F	SB	4.5	Sp	Sp	½	½	I-RW	I-RW	WN	HS
Zenith		Gr	M	M.L	12	MO	UE	3	ML	½F	SB	4.9	Sp	TT	¼	¼	I-P	I-RW	SN	D
Zenith		Gr	M	M.L	12	MO	UE	3	ML	½F	SB	4.2	Sp	TT	¼	¼	I-P	I-RW	SN	HS
Zenith	E	Vac	M		12	Co	UE	4	L	FF	SB	3.6	Sp	Sp	½	½	I-RW	I-RW	WW	HS
Smith	W	Vac	M	M.L	12	Co	SU	4	M	FF	SB	Op	Sp	Sp	½	½	I-RW	I-RW	WW	W
Zenith	W	Vac	M	B.T.H	12	Co	SU	4	M	FF	SB	3.8	TT	TT	½	Ct	I-RW	I-RW	WW	HS
		Gr	M		12	SP	UE	3	M	½F	W	4.8	TT	TT	¼	¼	I-RW	I-RW	RP	D
Own	E	Vac	B		12	SP	UE	3	M	½F	W	4.8	TT	TT	¼	¼	I-RW	I-RW	WS	D
Own	E	Vac	B		12	SP	UE	3	M	½F	W	4.8	TT	TT	¼	¼	I-RW	I-RW	WS	D
Zenith	W	Gr	M	M.L	12	Co	SU	3	F	FF	SB	4	Sp	Sp	½	½	I-RW	I-RW	WS	HS
Zenith	W	Gr	M	M.L	12	Co	SU	3	F	FF	SB	4	Sp	Sp	½	½	I-RW	I-RW	WS	HS
Zenith	W	Gr	M	M.L	12	Co	SU	4	F	FF	SB	4	Sp	Sp	½	½	I-RW	I-RW	WS	HS
	E	Gr	M	M.L	12	SP	SU	4	F	½F	SB	4.8	Sp	Sp	½	½	I-RW	I-RW	WS	HS
	E	Gr	M	M.L	12	SP	UE	4	F	½F	SB	4.8	Sp	Sp	½	½	I-RW	I-RW	WW	HS
Claudel	W	Gr	M		12	SP	UE	3	F	½F	SB	4.3	TT	TT	¼	¼	I-RW	I-RW	M	D
	W	Gr	M		6	Co	SU	3	F	½F	SB	4.0	Sp	Sp	¼	¼	E-RW	E-RW	WS	HS
Zenith	W	Vac	M	Simms	6	Co	SU	3	F	FF	SB	4.5	Sp	Sp	½	½	I-RW	I-RW	WW	HS
Solex	W	Gr	M	Watford	12	Co	UE	3	FM	FF	SB	4.4	Sp	Sp	½	½	I-RW	I-RW	WS	HS
Zenith	W	Gr	M	Watford	12	Co	SU	3	FM	FF	SB	4.4	Sp	Sp	½	½	I-RW	I-RW	WS	HS
		Gr	M		6	Co	UT	3	F	½F	SB	4.3	TT	TT	¼	¼	I-RW	I-RW	SN	HS
Zenith	W	Gr	M	B.T.H	6	Co	UE	3	M	½F	W	4.6	TT	TT	½	½	I-RW	I-RW	WW	HS
Solex	W	Gr	B	Rotax	6	Co	UE	3	L	½F	SB	4.1	Sp	TA	¼	¼	I-RW	I-RW	Epi	D
Solex	E	Gr	M	M.L	12	SP	UE	3	F	½F	SB	4.0	Sp	Sp	½	½	I-P	I-RW	WW	HS
Smith	E	Vac	M	Lucas	12	Co	SU	4	F	½F	SB	3.5	Sp	Sp	½	½	I-RW	E-P	WW	HS
Smith	W	Vac	M	Lucas	12	Co	SU	4	M	FF	SB	4.0	TT	TT	½	¾	I-P	I-RW	WW	Wr
Cox	W	Gr	M	Fellowes	12	Co	UT	3	F	½F	SB	4.2	TT	TT	¼	¼	I-RW	I-RW	RP	HS
Cox	W	Gr	M	M.L	6	Co	UT	3	F	½F	SB	4.2	TT	TT	¼	¼	I-RW	I-RW	RP	HS
Zenith	W	Vac	MB	C.A.V.&Sc	24	Ma				M	FF	SB	3.6	TT	TT	½	Ct	I-RW	I-RW	WW	Wr
		Gr	B		12	Co	SU	4	F	FF	SB	4.1	Sp	Sp	½	Ct	I-RW	E-P	WW	HS
Own	E	Vac	B		12	SP	SU	4	M	½F	W	6.1	Sp	Sp	½	½	E-P	I-RW	WW	Wr
Own	E	Vac	B		12	SP	SU	4	M	½F	W	6.1	Sp	Sp	½	½	E-P	I-RW	WW	Wr
Own	E	Vac	M		12	SP	SU	4	M	½F	W	3.3	Sp	Sp	½	¾	E-P	I-RW	WW	Wr
Own		Pr	M		12	SP	SU	4	M	½F	W	3.5	Sp	Sp	½	¾	E-P	E-RW	WW	Wr
Own		Pr	M		12	SP	SU	4	M	½F	W	3.5	Sp	Sp	½	¾	E-P	I-RW	WW	Wr
S.U	W	Vac	M	M.L	12	Co	SU	3	L	FF	SB	4.4	TT	TT	½	½	I-RW	I-RW	WS	HS
Claudel	W	Gr	M	Fellowes	6	Co	SU	3	M	FF	SB	4.5	TT	TT	½	¼	E-RW	I-RW	SN	HS
Claudel	W	Gr	M	Fellowes	6	Co	SU	3	M	FF	SB	4.5	TT	TT	½	¼	E-RW	I-RW	SN	HS
Zenith	E	Vac	M	B.T.H	12	Co	SU	3	M	¾F	SB	4.7	TT	TT	½	Ct	I-RW	I-RW	WW	HS
Zenith	E	Vac	M	B.T.H	12	Co	UE	4	M	¾F	SB	4.7	TT	TT	½	Ct	I-RW	I-RW	WW	HS
Zenith		Gr	M	Blic	6	Co	SU	3	F	½F	SB	4.5	Sp	TA	¼	Ct	I-RW	I-RW	WW	D
Zenith	E	Gr	M	M.L	6	Co	UA	3	FM	FF	Bv	4.2	RR	TorA	¼	¼	I-RW	I-RW		Wr
Cox	W	Gr	M	Bosch	6	Co	UE	4	F	¾F	SB	4.2	Sp	TT	½	¼	I-RW	I-RW	WW	D
Solex		Gr	M	M.L		SP	UE	3	F	½F	SB	4.3	TT	TT	¼	¼	I-RW	I-RW	Bev	D
Solex		Gr	M	M.L		SP	UE	3	F	½F	SB	4.3	TT	TT	¼	¼	I-RW	I-RW	Bev	D
	W	Vac	M		12	Co	SU	4	F	FF	SB	4.0	Sp	Sp	½	½	I-RW	I-RW	WW	HS
		Gr	M		6	Fr				FF		4.2	Sp	Sp	¼	¼	I-RW	I-RW	Epi	Wr
Claudel		Gr	M	Fellowes	6	Co	UT	3	M	½F	SB	4.8	TT	TT	½	½	I-RW	I-RW	WS	HS
Zenith	W	Gr	M	B.T.H	6	Co	UE	4	L	FF	SB	4.5	Sp	TA	½	½	I-RW	I-RW	WS	HS
Zenith	W	Vac	M	B.T.H	12	Co	UE	4	M	FF	SB	4.0	Sp	TA	½	¾	I-RW	I-RW	WS	HS
Claudel	E	Gr	B	Remy	6	Co	UE	3	M	½F	SB	4.5	TT	TT	¼	¼	I-RW	I-RW	WW	D
Zenith	W	Vac	M	B.T.H	6	MD	SU	4	M	FF	W	3.8	TT	TT	½	¾	I-RW	I-RW	SN	HS
Zenith	E	Gr	M	M.L	12	Co	SU	3	M	FF	SB	4.2	Sp	Sp	½	½	I-RW	I-RW	WS	HS
Cox	W	Gr	B	Lucas	12	Co	UE	3	FM	½F	SB	4.9	Sp	Sp	¼	½	E-RW	E-P	WW	HS

CLUTCH:
SP—Single Dry Plate
MD—Multiple Dry Disk
MO—Multiple Disk in Oil
Co—Cone
Ma—Magnetic Transmission
Fr—Friction Transmission
IC—Internal Cone

GEARSET LOCATION:
UE—Unit with Engine
SU—Separate Unit
UA—Unit with Axle
UT—Unit with Torque Tube

UNIVERSAL JOINTS:
F—Fabric
M—Metal
FM—Fabric and Metal
L—Leather

REAR AXLE TYPE:
FF—Full Floating
¾ F.—Three-Quarter Floating
½ F.—Semi Floating

FINAL DRIVE:
SB—Spiral Bevel
W—Worm
Bv—Straight Bevel

DRIVE AND TORQUE TAKEN BY:
TT—Torque Tube
Sp—Springs
RR—Radius Rods
TA—Torque Arm

SPRINGS:
¼—One Quarter Elliptic
½—Semi Elliptic
¾—Three-Quarter Elliptic
Ct—Cantilever
Tr—Transverse

BRAKES:
I—Internal
E—External
RW—Rear Wheels
FW—Front Wheels
P—Propeller Shaft

STEERING GEAR TYPE:
SN—Screw and Nut
WS—Worm and Sector
WW—Worm and Worm Wheel
RP—Rack and Pinion
Bev—Bevel Gear
Epi—Epicyclic Gear
M—Marles Cam Type

WHEEL TYPE:
D—Disk
HS—Hollow Pressed Steel Spoked
Wd—Wood
Wr—Wire
Opt—Optional

British Passenger Car Chassis

MAKE	Rated H. P.	Wheelbase (Ins.)	Tread (Ins.)	Tire Size (Ins.)	ENGINE													
					Cylinders								Camshaft					
					No. of Cylinders	Bore and Stroke (Ins.)	Piston Displacement (Cu. Ins.)	No. of Point Suspension	Head	Cyl. Type Valve Arrangement	No. Cast in One Block	Cast With Upper Half of Crank Case	Piston Material	Valve Material	Location	Drive	Cooling	Oiling System
Humber	11	109	55	30x3½	4	2.7x4.7	106	4	Det.	F	4	Unit	Al		CC	HG	Th	Sp
Humber	16	123	57	32x4½	4	3.1x5.5	171	4	Det.	F	4	Sep.	Al		CC	Ch	Pu	Pr
Jowett	7	84	45	26x3	2	2.9x4.0	55	3	Int.	L	1	Sep.	CI		CC	SG	Th	Pr
Lagonda	11	108	46	28x3½	4	2.7x3.7	86		Int.	F	4	Sep.	Al		CC	Ch	Th	PS
Lanchester	40	142	58	36x5	6	4.0x5.0	377	4	Int.	I	3	Sep.	Al		OH	Wm	Pu	FP
Lea Francis	7	90	42	26x2½	2	3.0x3.0	42	4	Det.	L	1	Sep.	CI	Ni	CC	SG	Ol	Sp
Lea Francis	9	90	42	26x2½	4	2.3x3.7	66	4	Det.	L	4	Sep.	Al	Ni	CC	HG	Th	Sp
Lea Francis	12	108	50	30x3½	4	2.7x5.1	118	4	Int.	L	4	Sep.	CI	Ni	CC	HG	Th	Sp
Leyland	40	142	56	36x5	8	3.5x5.7	443	3	Det.	I	8	Unit	Al		OH	Ec	Pu	FP
Magnetic	16	123	56	32x3½	4	3.1x5.1	158	3	Det.	S	4	Sep.	Al		CC	Ch	Pu	Pr
Marseal	10	102	48	28x3	4	2.5x3.9	76	4	Det.	L	4	Sep.	CI	Ni	CC	Ch	Th	PS
McCurd	12	102	48	30x3½	4	2.7x4.3	100	3	Det.	L	4	Sep.	CI	Ni	CC	HG	Pu	Sp
McKenzie	10	102	48	28x3½	4	2.6x4.3	91	4	Int.	L	4	Sep.	Al		CC	Ch	Th	Pr
Meteorite	11	105	50	28x3½	4	2.6x4.3	91	4	Int.	L	4	Sep.	CI		CC	Ch	Th	Pr
Morris	12	102	48	28x3	4	2.7x4.0	94	4	Det.	L	4	Unit	CI		CC	HG	Th	PS
Morris	14	102	48	28x3	4	2.9x4.0	109	4	Det.	L	4	Unit	CI		CC	HG	Th	PS
Morris	18	111	48	30x4	6	2.7x4.0	141	4	Det.	L	6	Unit	Al		CC	Ch	Th	PS
Napier	40	137	56	36x5	6	4.0x5.0	377	4	Det.	I	6	Unit	Al	Tu	OH	Wm	Pu	FP
Palladium	12	111	48	30x3½	4	2.7x3.9	91	3	Det.	L	4	Unit	CI	Ni	CC	HG	Th	Sp
Palladium	15	111	48	30x3½	4	2.7x4.1	109	3	Det.	I	4	Sep.	CI	Ni	CC	HG	Th	Pr
Phoenix	11	96	50	30x3½	4	2.7x3.9	91	4	Int.	L	4		CI		CC	HG	Th	PS
Phoenix	12	108	49	30x3½	4	2.7x4.1	109	4	Det.	I	4	Sep.	CI	Ni	CC	HG	Th	Pr
Phoenix	18	126	56	32x4	4	3.3x5.3	187	3	Det.	I	4		CI		OH	HG	Pu	PS
Princess	9	99	48	26x2½	2	3.3x3.8	67	4	Det.	L	1	Sep.	CI		CC	SG	Ar	Sp
Rhode	10	102	46	28x3	4	2.4x3.5	66	3	Det.	I	4	Unit	CI	Ni	OH	Bv	Th	Sp
Riley	11	108	48	30x3½	4	2.6x4.3	91	4	Det.	L	4	Sep.	Al		CC	Ch	Th	PS
Rob Roy	9	102	46	28x3½	2	3.3x3.5	62	3	Int.	L	1	Sep.	Al		CC	SG	Th	Sp
Rolls Royce	20	129	54	32x4½	6	3.0x4.5	192	3	Det.	I	6	Sep.	Al	NC	CC	HG	Pu	Pr
Rolls Royce	40	150	56	36x5	6	4.5x4.7	452	3	Int.	L	3	Sep.	Al	NC	CC	HG	Pu	FP
Rover	8	88	46	26x3	2	3.3x3.4	61	3	Det.	L	1	Sep.	CI		CC	HG	Ar	Sp
Rover	12	116	50	32x4	4	2.9x5.1	140	4	Det.	L	4	Sep.	CI		CC	Ch	Pu	Pr
Ruston Hornsby	16	117	56	32x4	4	3.1x5.1	159	4	Int.	L	4	Sep.	CI		CC	HG	Pu	Pr
Ruston Hornsby	20	126	56	32x4½	4	3.5x5.1	201	4	Int.	L	4	Sep.	CI		CC	HG	Pu	Pr
Ruston Hornsby	15	117	56	32x4	4	3.1x5.1	159	4	Det.	L	4	Unit	CI		CC	HG	Pu	PS
Ruston Hornsby	20	126	56	32x4½	4	3.5x5.1	201	4	Int.	L	4	Sep.	CI		CC	HG	Pu	PS
Singer	10	96	46	26x3	4	2.5x3.4	67	3	Det.	I	4	Unit	CI		CC	SG	Th	Sp
Singer	15	117	52	30x3½	6	2.5x3.9	122	4	Det.	L	6	Sep.	CI		CC	Ch	Th	Sp
Standard	8	105	48	26x3	4	2.4x3.5	66	3	Det.	I	4	Unit	Al		CC	Ch	Th	Sp
Standard	11	116	54	32x3½	4	2.9x4.3	118	4	Det.	I	4	Sep.	Al		CC	Ch	Th	Pr
Star	12	112	50	30x3½	4	2.7x5.1	118	4	Det.	L	4	Sep.	CI	Ni	CC	SG	Th	Sp
Star	16	129	57	32x4½	4	3.1x5.9	184	4	Int.	L	2	Sep.	CI	Ni	CC	Ch	Pu	Pr
Star	18	122	52	32x4½	6	2.7x5.1	177	4	Det.	L	6	Sep.	CI	Ni	CC	SG	Pu	Sp
Star	20	129	57	35x4½	4	3.5x5.9	233	4	Int.	L	2	Sep.	CI	Ni	CC	Ch	Pu	Pr
Stoneleigh	9	96	48	28x3	2	3.3x3.4	61	4	Int.	I	1	Sep.	Al	Ni	CC	SG	Ar	Pr
Straker Squire	10	108	46	28x3½	4	2.5x4.3	89	4	Det.	I	4	Unit	Al		CC	Ch	Th	PS
Straker Squire	15	117	55	32x4½	4	3.5x4.7	186	4	Int.	L	4	Sep.	CI		CC	HG	Th	PS
Straker Squire	24	127	56	32x4½	6	3.1x5.1	239	4	Int.	I	1	Sep.	CI		OH	Bv	Pu	Pr
Sunbeam	14	118	54	32x4	4	2.8x4.7	119	4	Det.	I	4	Sep.	Al	NCh	CC	Ch	Pu	Pr
Sunbeam	16	124	57	32x4½	4	3.1x5.9	184	4	Det.	I	4	Sep.	Al	NCh	CC	Ch	Pu	Pr
Sunbeam	24	136	57	32x4½	6	3.1x5.9	276	4	Det.	I	6	Sep.	Al	NCh	CC	Ch	Pu	Pr
Swift	10	90	46	26x3	4	2.3x3.8	67	4	Det.	L	4	Sep.	CI		CC	Ch	Th	Pr
Swift	12	108	48	30x3½	4	2.7x5.1	118	4	Int.	L	4	Sep.	CI		CC	Ch	Th	Pr
Talbot	8	97	47	28x3	4	2.2x3.7	59	4	Det.	I	4	Sep.	Al		CC	HG	Pu	Pr
Talbot	10	108	47	28x3	4	2.3x3.7	66	3	Det.	I	4	Sep.	Al		CC	HG	Pu	Pr
Talbot	12	120	53	30x4	6	2.2x3.7	89	3	Det.	I	6	Sep.	Al		CC	HG	Pu	Pr
Turner	12	108	48	28x3½	4	2.7x3.9	91	3	Det.	L	4	Unit	CI		CC	HG	Th	Sp
Turner	14	117	50	30x4	4	3.0x5.0	134	4	Det.	L	4	Sep.	CI		CC	HG	Th	FP
Vauxhall	14	114	54	32x4	4	2.9x5.1	140	3	Det.	L	4	Sep.	Al	NCh	CC	SG	Pu	Pr
Vauxhall	23	130	56	35x4½	4	3.7x5.5	244	4	Det.	I	4	Sep.	CI	NCh	CC	Ch	Pu	Pr
Vauxhall	30	118	54	32x4½	4	3.8x5.5	259	4	Det.	I	4	Sep.	Al	NCh	CC	Ch	Pu	Pr
Vulcan	12	114	56	30x3½	4	2.7x4.7	109	4	Det.	I	4	Unit	CI	NCh	CC	Ch	Pu	Sp
Vulcan	16	123	56	32x4	4	3.1x5.1	159	3	Det.	L	4	Unit	Al	Ni	CC	Ch	Pu	PS
Vulcan	20	128	56	32x4½	4	3.7x5.1	225	4	Int.	L	4	Sep.	Al	Ni	CC	SG	Pu	Pr
Westcar	12	108	48	30x3½	4	2.7x3.9	91	3	Det.	L	4	Sep.	CI		CC	HG	Th	Sp
Webb	9	102	44	28x3	4	2.3x3.7	66	4	Int.	L	4	Sep.	CI		CC	HG	Th	Sp
Westwood	12	110	49	30x3½	4	2.7x4.7	109	3	Det.	I	4	Sep.	CI	Ni	CC	HG	Th	Pr
Wigan Barlow	12	109	50	30x3½	4	2.7x4.7	109	4	Det.	I	4	Sep.	CI	Ni	CC	HG	Th	Pr
Wilton	12	108	48	28x3½	4	2.7x3.9	91	3	Det.	L	4	Unit	CI	Ni	CC	HG	Th	PS
Wolseley	7	97	44	26x3	2	3.2x3.6	59	3	Det.	L	1	Sep.	Al	NCh	CC	SG	Th	PS
Wolseley	10	99	46	28x3½	4	2.5x3.7	77	4	Det.	I	4	Unit	Al	NCh	OH	CB	Th	Sp
Wolseley	14	118	52	32x4	4	3.1x5.1	159	4	Int.	L	2	Sep.	Al	NCh	CC	Ch	Pu	Sp
Wolseley	15	118	52	32x4	4	3.1x5.1	159	4	Det.	I	4	Sep.	Al	NCh	OH	CB	Pu	Sp
Wolseley	20	137	54	32x4½	6	3.1x5.1	239	4	Int.	L	2	Sep.	Al	NCh	CC	Ch	Pu	Sp
Wolseley	24	140	55	36x5	6	3.5x5.5	326	4	Int.	L	2	Sep.	Al	NCh	CC	Ch	Pu	Sp

ABBREVIATIONS:

CYLINDER HEAD:
Det—Detachable
Int—Integral

VALVE ARRANGEMENT:
L—At Side
I—In Head
F—In Head and Side
S—Sleeve Type
T—At each side

CYLINDERS AND CRANKCASE:
Sep—Cast Separately
Unit—Cast in One Piece

PISTON MATERIAL:
CI—Cast Iron
Al—Aluminum

VALVE MATERIAL:
Ni—Nickel Steel
Ch—Chromium
C—Cobalt Alloy
Tu—Tungsten Steel
CCh—Cobalt Chrome
NCh—Nickel Chrome

CAMSHAFT LOCATION:
CC—In Crankcase
OH—Overhead

CAMSHAFT DRIVE:
Ch—Chain
HG—Helical Gears
SG—Spur Gear
SB—Spiral Bevel Gears
Ec—Eccentric Rods
BV—Straight both Bevel Gears
Wm—Worm Gears
CB—Chain and Bevel Gear

COOLING SYSTEM:
Th—Thermo Siphon
Pu—Pump
Ar—Air
Ol—Oil Cooled

LUBRICATION:
Sp—Splash
Pr—Pressure (in most cases to all crankshaft bearings)
PS—Pressure to main bearings, splash to other parts
FP—Pressure to all bearings

INLET MANIFOLD HEATED BY:
E—Exhaust
W—Water

FUEL FEED:
Pr—Pressure
Gr—Gravity
Vac—Vacuum

IGNITION: Type:
M—Magneto
B—Battery
M. B.—Magneto and Battery

Specifications—(Continued)

ENGINE			IGNITION SYSTEM			TRANSMISSION									RUNNING GEAR					
Fuel System										Rear Axle					Springs		Brakes			
Carburetor Make	Inlet Manifold Heated By	Fuel Feed	Current Source	Make	Voltage	Clutch Type	Gearse Location	No. of Forward Speeds	Universal Joint Type	Type	Final Drive	Gear Ratio	Propulsion Taken By	Torque Taken By	Front: Type	Rear: Type	Hand Type and Location	Foot Type and Location	Steering Gear Type	Wheels Type
Cox	W	Vac.	M	C.M.I.	12	Co	UE	4	FM	½F.	SB	4.3	Sp.	Sp.	½	½	E-RW	E-P.	WW	HS
Cox	W	Vac.	M	C.M.I.	12	Co	SU	4	FM	½F.	SB	4.3	Sp.	Sp.	½	½	I-RW	E-P.	WW	HS
Zenith		Gr	B.	Brolt	6	Co	UE	3	F.	½F.	SB	4.5	Sp.	Sp.	½	½	E-RW	E-P.	Epi	HS
Zenith		Gr.	M.	Fellowes	6	Co	UE	3	M	½F.	SB		TT	TT	Tr.	¼	I-RW	E-P.	WS	HS
S.U.	W	Vac.	MB.	Remy	12	SP.	UE	3	M	FF	W		TT	TT	½	Ct.	I-RW	I-P.	SN	Wr
Zenith		Gr.	M			Co	UE	4	M	½F.	SB	4.7	Sp.	TA	¼	¼	I-RW	I-RW	WS	D
Zenith	E.	Gr.	M		6	Co	UE	3	M	½F.	SB	4.7	Sp.	TA	½	¼	I-RW	I-RW	WS	D
Zenith	W	Gr.	M		12	Co	SU	4	M	FF	SB	4.5	Sp.	Sp.	½	½	I-RW	I-RW	WS	HS
Smith	E.	Vac.	B.	Delco	12	SP.	SU	4	M	FF	SB	3.2	TT	TT	½	¼	I-RW	I-RW	M	D
S.U.	E.	Vac.	M	B.T.H.		Ma			F	FF	SB	4.0	Sp.	Sp.	½	½	I-RW	I-RW	WW	D
Vici	E.	Gr.	M	B.T.H.	6	SP.	UT	3		FF	SB	4.5	TT	TT	¼	¼	I-RW	I-RW	RP	HS
Zenith	E.	Gr.	M	B.T.H.	12	SP.	SU	4	M	FF	SB	4.5	TT	TT	½	½	I-RW	I-RW	WS	HS
	E	Gr.	M	Blic	12	Co	UE	4	F	½F.	SB	4.6	Sp.	Sp.	½	½	I-RW	I-RW	WW	HS
Zenith	E.	Gr.	M	Blic	6	Co	SU	3	M	FF	By	4.5	TT	TT	½	Ct.	IRW-	I-RW	WW	HS
S.U.		Gr.	M		12	MD	UE	3	M	¾F.	SB	4.7	TT	TT	½	¾	I-RW	I-RW	WW	HS
S.U.		Gr.	M		12	MD	UE	3	M	¾F.	SB	4.7	TT	TT	½	¾	I-RW	I-RW	WW	HS
S.U.		Gr.	M		12	MD	UE	3	M	¾F.	SB	3.5	TT	TT	½	½	I-RW	I-RW	WW	HS
S.U.	W	Pr.	MB.	Watford	12	SP.	SU	4	M	FF	SB	3.7	Sp.	TT	½	Ct.	I-RW	E-P.	WS	Wr
Zenith	E	Gr	M	Fellowes	12	SP.	UE	4	F.	FF	SB	4.6	Sp.	Sp.	½	½	I-RW	I-RW	WW	D
Zenith	W	Gr.	M	Fellowes	12	Co	UE	4	F.	½F.	SB	4.3	Sp.	Sp.	½	½	I-RW	I-RW	WW	D
S.U.	W	Gr.	M	Blic	6	Co	SU	3	M	FF	W	4.1	TT	TT	½	½	I-RW	E-P.	WW	Wd
Zenith	W	Gr.	M	Blic	6	Co	UE	4	F.	½F.	SB	4.3	Sp.	Sp.	½	½	I-RW	I-RW	WW	Wd
Zenith	W	Vac.	M	Blic	12	Co	UE	3	M	FF	SB	4.2			½	Ct.	I-RW	I-RW	WW	Wd
Zenith		Gr.	M	B.T.H.	6	MO	UE	3	F.	FF	W	5.6	RR	TA	¼	¼	I-RW	E-P.	WW	HS
Cox	E.	Gr.	M	Fellowes	6	SP.	UE	3	F.	½F.	SB	4.2	Sp.	TT	¼	¼	E-P.	I-RW	Epi	D
Zephyr		Gr.	M	M.L.	12	Co	UE	4	F.	½F.	SB	4.3	Sp.	Sp.	½	½	I-RW	I-RW	WW	D
Zenith		Gr.	M	Lucas	6	Co	UE	3	M	¾F.	SB	4.5	Sp.	TA	¼	¼	I-RW	I-RW	Epi	D
Own	E.	Vac	B.	Own	12	SP.	UE	3	M	FF	SB	4.6	TT	TT	½	½	I-RW	I-RW	SN	Wr
Own	W	Pr.	MB.		12	Co	SU	4	M	FF	SB	3.4	TT	TT	½	Ct.	I-RW	I-RW	SN	Wr
Smith	E.	Gr	M	Lucas	6	SP.	UE	3	FM	½F.	W	4.8	Sp.	TA	¼	¼	I-RW	I-RW	RP	D
S.U.	W	Vac.	M	Lucas	12	SP.	SU	3	M	½F.	W	4.3	Sp.	TA	½	½	I-RW	E-P.	WS	HS
Zenith	E	Gr.	M	B.T.H.	12	Co	UE	3	M	½F.	SB	4.5	Sp.	Sp.	½	½	I-RW	I-RW	WW	HS
Zenith	E.	Gr.	M	B.T.H.	12	Co	UE	3	M	½F.	SB	3.9	Sp.	Sp.	½	½	I-RW	I-RW	WW	HS
Zenith	W	Gr.	M	B.T.H.	12	Co	UA	3	F.	½F.	SB	4.2	TT	TT	½	¾	I-RW	I-RW	M	D
Zenith	W	Gr.	M	B.T.H.	12	Co	UA	3	F.	½F.	SB	4.2	TT	TT	½	¾	I-RW	I-RW	M	D
Solex	W	Gr.	M	M.L.	6	Co	UE	3	L.	½F.	SB	4.1	Sp.	TA	¼	¼	I-RW	I-RW	Epi	D
Claudel	W	Vac.	M	C.M.I.	12	Co	UT	3	L.	¾F.	SB	4.3	TT	TT	½	½	I-RW	I-RW	WS	D
Zenith	W	Gr	M	Watford	12	SP.	UT	3	F.	½F.	W	5.1	TT	TT	¼	¼	I-RW	I-RW	WW	D
Zenith	W	Vac	M	Watford	12	SP.	SU	4	F.	½F.	W		Sp.	Sp.	½	½	I-RW	E-P.	WW	HS
Zenith	W	Gr.	M	Watford	12	SP.	UE	3	F.	½F.	SB	4.3	Sp.	Sp.	½	½	I-RW	E-RW	WW	D
Zenith		Vac.	M	Watford	12	SP.	SU	4	M	FF	SB	3.9	Sp.	Sp.	½	½	I-RW	E-P.	WW	HS
Zenith	W	Vac.	M	Watford	12	SP.	UE	4	F.	½F.	SB	3.9	Sp.	Sp.	½	½	I-RW	E-RW	WW	HS
Zenith		Vac.	M	Watford	12	SP.	SU	4	M	FF	SB	3.9	Sp.	Sp.	½	¾	I-RW	E-P.	WW	HS
Claudel	E.	Gr	B.	Remy	6	SP.	UT	3	F.	½F.	SB	5.0	TT	TT	¼	¼	I-RW	I-RW	WS	D
Zenith	E.	Gr.	M	M.L.	6	Co	UE	4	F.	FF	SB	4.1	Sp.	TA	½	½	I-RW	I-RW	WW	HS
Zenith	W	Vac.	M	Watford	12	SP.	SU	4	M	FF	SB	4.0	Sp.	TA	½	½	I-RW	I-RW	WW	Wr
S.U.	W	Vac.	M	Lucas	12	SP.	SU	4	M	FF	SB	3.7	TT	TT	½	Ct.	I-RW	I-RW	WW	Wr
Claudel	E.	Vac.	M	Lucas	12	SP.	UE	3	M	½F.	SB	4.5	TT	TT	½	Ct.	I-RW	I-RW	WS	HS
Claudel	W	Vac.	M	Lucas	12	Co	SU	4	M	FF	SB	4.0	Sp.	Sp.	½	½	I-RW	I-P	WS	HS
Claudel	W	Vac.	M	Lucas	12	Co	SU	4	M	FF	SB	3.5	Sp.	Sp.	½	½	I-RW	I-P	WS	HS
Solex		Gr.	B	Remy	6	Co	SU	3	F.	½F.	SB	4.6	Sp.	Sp.	¼	¼	I-RW	I-RW	WW	D
Zenith		Gr.	M	Watford	12	Co	SU	4	M	½F.	SB	4.2	Sp.	Sp.	½	½	I-RW	E-P.	WW	HS
Zenith	E.	Gr.	B.	Remy	6	SP.	UE	3	M	FF	SB	4.5	TT	TT	¼	¼	I-RW	I-RW	SN	HS
Zenith	E.	Gr.	B.	Remy	6	SP.	UE	3	M	FF	SB	4.5	TT	TT	¼	¼	I-RW	I-RW	SN	HS
Zenith	E.	Vac.	B.	Remy	6	SP.	UE	3	M	FF	SB	4.5	TT	TT	¼	¼	I-RW	I-RW	SN	HS
Zenith		Gr.	M		12	SP.	UE	3	F.	¾F.	SB	4.3	Sp.	TA	½	¼	I-RW	I-RW	M	HS
Zenith	W	Vac.	M	Lucas	12	Co	SU	4	F.	FF	SB	4.8	TT	TT	½	Ct.	I-RW	I-RW	M	HS
Zenith	E.	Vac.	M	Simms	12	SP.	UE	3	M	½F.	SB	4.5	Sp.	TT	½	Ct.	I-RW	I-RW	WS	D
Zenith	E.	Pr.	M	Watford	12	MD	SU	4	M	FF	SB	3.6	Sp.	TA	½	½	I-RW	I-P	WW	Wr
Zenith	W	Pr.	M	Watford	12	MD	SU	4	M	½F.	SB	3.3	Sp.	TA	½	½	I-RW	I-P	WW	Wr
Zenith	E.	Gr.	M	Lucas	12	Co	UE	4	F	¾F.	W	4.6	Sp.	Sp.	½	½	I-RW	I-RW	WS	HS
Zenith	E.	Vac.	M	M.L.	12	Co	SU	4	M	FF	W	4.4	Sp.	Sp.	½	½	I-RW	E-P.	WW	HS
Zenith	E.	Vac.	M	M.L.	12	Co	SU	4	M	FF	W	4.0	RR	TT	½	½	I-RW	I-RW	WW	HS
Zenith	E.	Vac.	M	B.T.H.	6	SP.	UE	4	F.	FF	SB	4.4	Sp.	Sp.	½	½	I-RW	I-RW	M	HS
Vici	E.	Gr.	M	B.T.H.	6	Co	SU	3	F	¾F.	SB	4.7	Sp.	Sp.	¼	¼	I-RW	I-RW	WW	D
Zenith		Vac.	M	Blic	12	Co	UE	4	F.	FF	SB	4.2	Sp.	TA	½	½	I-RW	I-RW	WW	HS
Zenith		Vac.	M		12	Co	UE	4	F.	FF	W	4.5	Sp.	Sp.	½	½	I-RW	I-RW	WW	D
Zenith	E.	Gr.	M	B.T.H.	6	SP.	SU	3	M	½F.	W		Sp.	TA	½	Ct.	I-RW	I-RW	WW	HS
S.U.	E.	Gr.	B.	Blic	6	Co	UE	3	F.	½F.	SB	5.6	Sp.	TA	¼	¼	I-RW	I-RW	WW	HS
S.U.	E.	Gr.	B.	Blic	6	MO	UA	3	FM	½F.	W	5.2	Sp.	TT	¼	¼	I-RW	I-RW	WW	HS
S.U.	E.	Gr.	M	Blic	12	Co	SU	3	FM	½F.	W	5.2	Sp.	TT	¼	¼	I-RW	I-RW	WW	HS
S.U.	W	Vac.	B.	Blic	12	MO	SU	3	FM	½F.	W	4.8	Sp.	TT	¼	¼	I-RW	I-RW	WW	HS
S.U.	W	Vac.	M	Blic	12	MO	SU	4	M	FF	W	4.6	Sp.	TT	½	Ct.	I-RW	E-P.	WW	Wr
S.U.	W	Vac.	M	Blic	12	MO	SU	4	M	½F	W	3.5	Sp.	TT	½	Ct.	I-RW	E-P.	WS	Wr

CLUTCH:
SP—Single Dry Plate
MD—Multiple Dry Disk
MO—Multiple Disk in Oil
Co—Cone
Ma—Magnetic Transmission
Fr—Friction Transmission
IC—Internal Gone

GEARSET LOCATION:
UE—Unit with Engine
SU—Separate Unit
UA—Unit with Axle
UT—Unit with Torque Tube

UNIVERSAL JOINTS:
F—Fabric
M—Metal
FM—Fabric and Metal
L—Leather

REAR AXLE TYPE:
FF—Full Floating
¾ F.—Three-Quarter Floating
½ F.—Semi Floating

FINAL DRIVE:
SB—Spiral Bevel
W—Worm
Bv—Straight Bevel

DRIVE AND TORQUE TAKEN BY:
TT—Torque Tube
Sn—Springs
RR—Radius Rods
TA—Torque Arm

SPRINGS:
¼—One Quarter Elliptic
½—Semi Elliptic
¾—Three Quarter Elliptic
Ct—Cantilever
Tr—Transverse

BRAKES:
I—Internal
E—External
RW—Rear Wheels
FW—Front Wheels
P—Propeller Shaft

STEERING GEAR TYPE:
SN—Seew and Nut
WS—Worm and Sector
WW—Worm and Worm Wheel
RP—Rack and Pinion
Bev—Bevel Gear
Epi—Epicyclic Gear
M—Maries Cam Type

WHEEL TYPE:
D—Disk
HS—Hollow Pressed Steel Spoked
Wr—Wire
Wd—Wood
Opt—Optional

than hitherto, some 10 per cent now having some arrangement of this kind.

Splash lubrication has increased considerably of late and is now used on 33 per cent of cars, the hollow crankshaft system having fallen from 54 to 44 per cent after increasing from 46 per cent in 1921. This change is not wholly due to the large number of light cars among new models, but more particularly to endeavors to reduce manufacturing costs when this end can be attained without loss of efficiency.

For all except engines of unusually high efficiency the hollow shaft system is certainly not a selling point, and is therefore not justified from that aspect. Full pressure systems, with leads up to the piston-pins, have moved up from 3 to 5 per cent. Circulating splash with pressure leads to the main journals and in some cases to the camshaft bearings has fallen from 22 to 18 per cent, catch-pits having been found as good as direct leads.

Gear Type Oil Pump Predominates

The gear type of oil pump still predominates, though it has given way from 72 to 64 per cent, the gain being in the plunger type, which now stands at 30 per cent; in three out of every five cases the plunger pump is located in the sump and is driven by an eccentric on the camshaft and linked rods.

The Zenith carbureter is used on over 50 per cent of British cars and in most cases is of the original, as distinct from the triple diffuser type. Hot air muffs are exceptional, though choke valves are coming to be more widely fitted. To assist vaporization, some form of water jacket is most generally favored, but only occasionally is this separate from the cylinder block. Sunbeam and one or two other makers (8 per cent of models in all) have a jacket around a separate inlet manifold, but by far the greater number merely arrange some portion of the induction tract in the cylinder block.

Gravity feed for the fuel is represented in 60 per cent of models, the vacuum system having fallen from 39 to 35, not because of dissatisfaction with it but by reason of the lack of space under the bonnets of the numerous new light cars and also on account of the lower cost of the gravity system.

Magneto ignition has given way but very slightly to the battery system during the past twelve months, having fallen from 92 to 87 per cent; battery alone occurs on the remaining 13 per cent, though it is also used as a second ignition on 3 per cent of cars. Two makers provide a second magneto, but these are on high speed efficiency "sport" models. Two-unit starting and lighting sets are found on 89 per cent of cars but there is a slight tendency to adopt the single unit and an additional maker of electric outfits (C. A. V.) has put one on the market for cars up to 12-14 hp.

The cone type of clutch remains in greatest favor for cars of all sizes, being used on 53 per cent, though the single dry plate has advanced from 34 to 38 per cent at the expense of the multi-plate.

Unit Power Plants Gain

As already mentioned, unit power plants have increased appreciably and now appear on 46 per cent of cars, the amidships location coming next with 42 per cent; the remainder are almost equally divided between the unit with torque tube and the unit with axle arrangements, both of which show a falling off.

Four speeds have increased 1 per cent, to 47, and this number of gears is to be found on light cars as well as on the larger sizes.

Open propeller shafts are found on 54 per cent of cars, and of these approximately 60 per cent have the Hotchkiss drive. The semi-enclosed system has increased from 4 to 6 per cent. The wider use of fabric disk joints continues, and 51 per cent of models have no metallic universal; of these 5 per cent have leather disks, while a further 10 per cent of cars have a fabric joint at the front of the propeller shaft and a sliding metallic joint behind.

Spiral bevels for the final drive again show an increase, though not so much at the expense of the worm, which is still found on 20 per cent of cars (11 per cent below the axle and 9 per cent above); it is the straight bevel which has receded (13 to 3 per cent). Full floating and semi-floating axles are almost equally prevalent—46 and 43 per cent respectively.

Axle casings of which a portion if not the whole is of aluminum have increased very considerably, for they occur on over 30 per cent of cars. The pressed steel double-banjo type of casing has increased, appearing on 16 per cent of models.

Half elliptic springs at back and front are used on 44 per cent of British cars, next in popularity being quarter elliptics for both ends (25 per cent), followed by full cantilevers at the rear with half elliptics in front (15 per cent).

Brake Lay-outs Varied

In brake lay-outs there are over a dozen combinations of types and positions. Internal shoes applying to drums on the rear wheels for both hand and pedal operated sets are most usual and have increased steadily since the war; this combination now appears on 72 per cent of cars. Cast aluminum shoes are increasing in favor, these being faced with fabric and having hardened steel contact plates for the cams. Cast iron shoes without separate facings are also in fairly wide use, but most makers still prefer cast malleable shoes with fabric facings.

Next in popularity to two sets of internal shoes applying to the wheel drums is the combination internal-on-wheels and external-on-gearset. External brakes on the wheels appear on only 10 per cent of cars. Only one British car has front wheel brakes as standard, and that is the smallest four-wheeler (the 7-hp. Austin), while Sunbeam is the only maker offering to fit them as an extra and that only on one model.

Worm and worm wheel steering gear occurs on 56 per cent of cars, worm and segment having receded 4 per cent, to 22. Means of adjustment for taking up backlash in the gears is more frequently found; sometimes it consists of eccentric bushes for the worm wheel shaft, while in other cases an adjustable thrust pin is provided for that shaft to take up axial play. Adjustment for the thrust bearings of the steering column occurs on approximately 60 per cent of cars.

Wheel Types Change

The disk wheel has receded slightly (from 29 to 27 per cent) after increasing rapidly in favor each previous year subsequent to the war. There is a growing prejudice against its appearance which is having some effect, but the main objection is its resonance, which has the effect of increasing the noise on indirect gear ratios.

The beaded edge (clincher type) of tire is used on 94 per cent of cars; this represents a gain for the straight-side tire, for the present is the first year in which any British car maker has standardized this pattern. Cord tires are on the way to becoming standard, for whereas twelve months ago they had hardly appeared in British car specifications, they are included today in over 50 per cent. The majority of both cord and fabric tires supplied are Dunlops (84 per cent), though Michelins are equally if not more popular with users as replacements.

French Car Builders Increase Number of Types

One-model program not carried out by any maker. Even Citroen has added sport type and is designing smaller two-seater. Magneto ignition regains popularity. Special carbureters used.

By W. F. Bradley

IN a technical review of French passenger-car development one may well include the products of Italy, Belgium, Switzerland and Spain, for while these countries have their individualities, the general lines of development are the same. Technically, European automobile construction falls into three distinct schools: British, German and French, each one with its distinctive characteristics. The number of passenger cars produced in Switzerland and Spain is too small to have any important influence on the whole, while the output of Italy and Belgium, although bigger, follows the same general lines as that of France.

The belief, which sprang up after the war, that there would be a specialization on one or a few types has not been borne out, and is further from realization now than ever. The only makers confined to a single model are those producing very limited numbers of unusually high-grade cars, and even among these there is a tendency to build a sport type as an addition to the normal touring chassis. Among those falling into this class are Farman, Hispano-Suiza, Excelsior, Sizaire-Berwick and Paulet.

Citroen, who set out with a one-model big-production program, has found it necessary to modify is by adding a sport type to his normal chassis and taking up the construction of a smaller two-seater. Among the big firms the tendency is toward an increased number of models: Renault has five distinct chassis types for passenger service only; Peugeot markets eight distinctive models; Panhard-Levassor has five types; Berliet has three; De Dion Bouton has four types, with sub-divisions increasing this number to six.

Piston displacement has decreased for the 1923 season. This change has been brought about by the invasion of the light-car field by firms hithertofore building bigger machines. Among those who have made this change are Voisin, Lancia, Hotchkiss, Minerva, Itala and Metallurgique. The type of car being produced in the biggest quantities is a four-cylinder having 91 cu. in. piston displacement maximum, nominally rated at 10 hp., with a four-seater open or closed body, the wheelbase varying from 100 to 105 in. The biggest producers of cars of this general type are Fiat in Italy, Citroen, Talbot-Darracq, De Dion-Bouton, Berliet, Peugeot, Delage, Lorraine-Dietrich and Peugeot in France. The 10-hp. four-passenger model represents approximately 75 per cent of the production of the above-mentioned firms.

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There is a fairly wide variation in the price of cars of this general class, the differences depending upon size and quality. The following prices are for the cheapest model four-passenger 10-hp. cars where alternative models exist, and include the State 10 per cent luxury tax applied to all pasenger cars: Citroen, 13,900 francs; Renault, 19,000 francs; Berliet, 19,850 francs; Fiat, 21,750 francs; Delage (chassis only), 21,150 francs; Talbot-Darracq, 23,000 francs; De Dion-Bouton, 24,000 francs; Panhard-Levassor, 24,900 francs; Voisin, 33,000 francs.

Large Light Car Field

Below the 10-hp. four-passenger car there is an important series of light two-seaters officially but erroneously termed "cycle cars." These are really diminutive cars, having all the features of big cars, with a piston displacement not exceeding 61 cu. in. To get the advantage of reduced taxation the "cycle car" is limited in weight to 771 lb. It is a difficult matter to get down to this limit while fitting a differential, maintaining a reasonable margin of strength, and adding such accessories as electric lighting and starting, and it is for this reason that Renault and Citroen, the two biggest makers of 61 cu. in. machines, have ignored the official weight limit. Apart from these two firms, the important makers of 61 cu. in. cars are specialists, including Salmson, Amilcar, Mathis, Benjamin and S.A.R.A. The cycle car as a machine developed up from the motor cycle has met with practically no success in France. Prices for 61 cu. in. two-seaters vary from 7,000 to 9,500 francs, State luxury tax included.

There is much more uniformity in French chassis design than is the case in some neighboring countries, and particularly in England. Features of design which appear to be open to discussion in England are unanimously accepted in France. Thus all cylinders are block cast, unit construction of engine and gearbox is 85 per cent, detachable cylinder head is 46 per cent, and front wheel brakes have in one year jumped up to 51.2 per cent.

The four-cylinder engine is in the immense majority of 81.7 per cent. There is a slight increase in the number of

small, high-grade sixes (10.8 per cent) and a dropping off in importance of eight-cylinder engines of both the V and straight-ahead type. The Knight engine maintains its position, being produced exclusively by Panhard-Levassor, Voisin, Mors and Minerva, and for one model by Peugeot. The smallest Knight engines are a Panhard 2.4 x 3.9 in. and a Voisin of 2.4 x 4.3 in. There are no other alternatives to the poppet valve engine.

This year shows an important increase in the number of overhead-valve engines, which now total 35.4 per cent of the whole. Considering each model as a unity, these engines are about equally divided between overhead camshafts and camshaft in the base chamber with push rods. The latter type is much more important from a production standpoint, and appears likely to still further increase in numbers. All the overhead-valve engines have concealed push rods, either with the rods going through the cylinder casting or hidden by a detachable plate.

With unit construction of engine and gearbox on 67 per cent of French models, the engine subframe has practically gone out of existence. Three and four-point suspensions are about equally represented.

Magneto Ignition Regains Favor

The magneto, which a year ago appeared to be very seriously threatened by generator and battery systems, has regained in favor and is now found on 89.6 per cent of French cars. Double ignition is only found in exceptional cases. The use of aluminum pistons shows a very important increase and is represented by 46.3 per cent of total number of models. In two or three cases magnesium pistons are supplied or are optional; these, however, are only fitted to special sporting models.

Camshaft drive is represented by 60.5 per cent pinions and 39.5 per cent silent chains. The latter system has lost favor during the year, owing, apparently, to the difficulty of maintaining the initial degree of silence. Including all four-cylinder engines, from the smallest to the largest, the percentage of two main bearings is 51.5; on 44.3 per cent three bearings are used, and on 4.2 per cent there are five bearings. If engines of 61 cu. in. and less are eliminated, pump-water circulation is in a majority, but if all engines are considered the percentages are 75.3 for thermo-syphon flow and 24.7 for pump circulation.

In the matter of lubrication the tendency is toward full pressure with a gear type pump. This is found on 57.6 per cent of all cars. The pump-circulating type, with either constant level troughs for the connecting rods or centrifugal rings, is to be found on 32.5 per cent., while the splash system with troughs for the connecting rod bearings is seen on 9.9 per cent.

There is a tendency to make use of specialists' carbureters. As, in many cases, the make of carbureter is optional, percentages are apt to be misleading. The make most extensively used is Zenith, with Solex second. In practically all cases the mixture is heated by the circulating water, with in some cases the main air supply passing through the valve stem chamber. Muffs from the exhaust for heating the mixture are found in very rare cases only. The vacuum system of fuel feed is the most popular individual type on French cars, and embodies 50 per cent of the whole. The gravity system is found on 43.8 per cent, most of these being small cars where only a small amount of fuel has to be carried. The pressure system only exists in a modified form with a small feed tank on the forward face of the dash, and is adopted by Italian makers, who claim that vacuum is unsatisfactory in the mountains.

Three-speed gear sets have increased at the expense of four-speed sets, the proportions being 27.1 for the three-gear combination and 65.5 for the four. Cars with less than three or more than four gears are 7.4 per cent of the whole. The improvement of three-gear boxes has been brought about by the increased ratio of power to weight on modern four-passenger cars, and by an additional number of high-grade luxury cars on which a fourth gear appears unnecessary.

"THE outstanding feature of French construction for 1923 is the adoption of front-wheel brakes. Whereas two years ago the number of cars with brakes on all wheels did not exceed four or five high-class models, figures for the current year show that in 51.2 per cent of models front brakes are either standard or optional and the range runs from the smallest to the biggest cars and includes the most conservative as well as the most advanced designers."

Metallic universal joints are in an immense majority. As a general rule fabric type universals are only found on the smaller and cheaper cars. There is an increased number of pressed steel welded axle housings. Spiral bevel is the most popular type of final drive, its proportion being 50.7 per cent; straight bevel represents 34.4 per cent and worm only 3.9 per cent.

Plenty of variety exists in the matter of rear springing. The half-elliptic has the strongest representation with 46.3 per cent, with the full cantilever, or combinations of the cantilever, responsible for 24.1 per cent. Other systems, comprising quarter elliptics, transverse, platform and coil springs total 29.6 per cent.

Concurrently with the adoption of unit construction of engine and gear box and the increased popularity of cantilever springing, there has been developed the inclosed propeller shaft with either spherical or fork attachment to the rear face of the gear box. As a consequence the number of cars on which the springs are made use of to transmit both the drive and the torque has dropped to 42.1 per cent.

Front-Wheel Brakes Biggest Feature

The outstanding feature of French construction for 1923 is the adoption of front-wheel brakes. Whereas, two years ago the number of cars with brakes on all wheels did not exceed four or five high-class models, figures for the current year show that in 51.2 per cent front brakes are either standard or optional, and the range runs from the smallest to the biggest cars and includes the most conservative as well as the most advanced designers. In France the most generally adopted type is the Perrot; in Italy the Isotta-Fraschini, or modifications of this type, are generally used, and Belgium is making the most extensive use of the Adex type. In the great majority of cases the front and rear wheel brakes are operated simultaneously by pedal the hand lever gives independent control of the rear brakes only, and the transmission brake is abolished. On cars which are not equipped with front wheel brakes, the tendency is to fit both sets side by side on the rear wheel drums.

All wheels are detachable, the only maker of importance using a detachable rim being Berliet. Numerically the steel disk wheel of the Michelin type is the most important. Wire wheels are usually confined to open cars and sports models. Except on the cheaper cars, the type of wheel is often optional, but whether wood, disk, wire or steel spoke, it is always detachable. Clincher bead tires are used exclusively, there being no maker in France, Italy or Belgium marketing a car with straight-side tires.

Reduction in Number of German Passenger Car Models

Majority of manufacturers concentrate on one type. Four cylinder L-head engines far in the lead. Magneto ignition found on almost all cars. Four wheel brakes appear on three models.

By Benno R. Dierfeld

A SURVEY of the German automobile industry shows 65 manufacturers producing 108 passenger car models. Of these 65 passenger car manufacturers 12 are also producers of trucks and the list contains three wheel as well as four wheel passenger car types. The practice of concentrating on one model is followed by 41 manufacturers.

Four cylinder engines are greatly in the lead. This type of engine is found on 81.3 per cent of all cars. Six cylinders stand second with 11.8 per cent and the remaining 6.9 per cent are two cylinder models found only on light cars and cyclecars.

Of the four cylinder engines 7 or 7.8 per cent have their cylinders cast in pairs, the remainder for the most part are cast in block. Four out of the 13 six cylinder models have their engines cast in two blocks; 2 are cast in three blocks and the remaining 4 are cast in one block; 16.4 per cent of all engines now have a detachable cylinder head.

Cast steel cylinders are used on three models; steel cylinders on four models of the Mercedes and aluminum with steel or cast iron liners appears on four models.

Aluminum leads as a piston material. It is found on 55.5 per cent, or a little over half, of all models. Cast steel pistons are used on 2.7 per cent of cars and cast iron is fitted on the rest.

The L-head engine tops the list with 77 per cent, followed by the F-head with 5.5 per cent and I-head with 1.75 per cent. There is one two-cycle engine on the market and Mercedes is producing a Knight engined model.

Chain leads in popularity as a camshaft drive with 37 per cent; spur gears have 29 per cent and helical gears 24 per cent.

Thermo-Syphon Cooling Predominates

Cooling is effected by thermo-syphon on 58.2 per cent of German passenger cars. Pump cooling follows with 37.3 per cent and last air cooling with 4.5 per cent.

The combined pressure and splash system of lubrication is most popular. Of the oil pumps used, 70.8 per cent are gear type, 15 per cent eccentric and 14.2 per cent piston pump.

The French Zenith carbureter still dominates the field. This carbureter is found on 34.5 per cent of cars. The German Pallas follows with 29.8 per cent; various German systems 24.8 per cent and cars equipped with their own make 10.9 per cent. Vacuum fuel feed holds the field with 46.8 per cent; gravity follows with 30 per cent; air pressure 15.8 per cent; exhaust pressure 4.6 per cent and the remainder are mixed systems.

Magneto ignition is used in almost all cases. Battery ignition is only found on one model.

Clutch systems are divided as follows: Leather cone 31.4 per cent; Ferodo cone 28.8 per cent; fiber cone 1.9 per cent; double cone 3.8 per cent; metal cone 3.8 per cent; disc in oil 18.3 per cent; dry disc 2.7 per cent; expansion clutch 1.6 per cent, and plate 7.3 per cent. A clutch brake is fitted to 56 per cent of all models.

Four-Speed Gearsets Favored

Gearset separate from the power plant leads the field with 76 per cent. It is a unit with the engine in 22.2 per cent of cars. In 1.8 per cent of cars the gearset is combined with the rear axle. This is also found in the Rumpler car in which the engine, gearset and rear axle are in combination. Four-speed gearsets appear on 77 per cent of cars; three speeds on 20.2 per cent and two speeds on 2.8 per cent. All gearsets are of the selective type.

Chain drive is used on four small car models and together with the Rumpler they constitute the sole exceptions to shaft drive. Drive with one joint leads in favor with two joint appearing on 10 per cent of cars. Dry disk joints now have 8.1 per cent of the field, a distinct falling off from last year. Propulsion and torque is usually taken by the propeller tube.

A three-quarter floating rear axle with ball bearings throughout leads in popularity. For final drive, bevel gear tops the list with 47 per cent, spiral bevel has 45 per cent, double bevel 5 per cent and worm drive 3 per cent.

Front springs are divided to type as follows: Semi-elliptic 88.8 per cent; quarter-elliptic 4.6 per cent; transversal 3.8 per cent and cantilever 2.8 per cent. Rear springs: Semi-elliptic 59.8 per cent; cantilever 24.5 per cent; quarter elliptic 6.3 per cent, three-quarter elliptic 3.8 per cent, and other systems 4.6 per cent.

Steering gears are located on the right side to the extent of 90 per cent. Screw and nut type lead with 53.1 per cent; worm and sector follows with 43.9 per cent and other systems with 3 per cent.

The customary braking system is to have the foot brake a transmission brake and the hand brake operate on the rear wheel. Sixteen per cent have both brakes acting on the rear wheel. Four-wheel brakes appear on three models; 83.2 per cent of the brake equalizers are of the balance beam type; 11.2 per cent cable and 5.6 per cent bevel differential. Water-cooled transmission brakes are found on two models.

Continental Passenger Car Chassis Specifications

MAKE	Wheelbase (Ins.)	Tire Size (mm.)	ENGINE															ELECTRICAL SYSTEM			TRANSMISSION							RUNNING GEAR				
			No. of Cylinders	Bore and Stroke (mm.)	No. of Main Bearings	No. of Point Suspension	Cylinder Head	Valve Arrangement	No. of Cylinders Per Casting	Piston Material	Camshaft: Location	Camshaft: Drive	Cooling	Oiling System	Fuel System: Carburetor Make	Fuel System: Intake Manifold Heated by	Fuel System: Fuel Feed	Current Sources	Generator Make	Voltage	Clutch Type	Gearset Location	No. of Forward Speeds	Universal Type	Final Drive	Gear Ratio	Propulsion and Torque Taken by	Rear Springs Type	Brake Location: Foot	Brake Location: Hand	Steering Gear Type	Wheels Type
FRENCH																																
Alba	103	710x 90	4	2.4x4.3	3	4	Det	L	4	Iron	C	Gr	T	Pres	Zenith	W	Gra	Mag	S.E.M.	12	Cone	Sep	3	M	Bev	4.5	Sp	½-El	R-F*	R	W&S	Wd
Alba	113	760x 90	4	2.7x5.1	3	4	Det	L	4	Iron	C	Gr	T	Pres	Zenith	W	Gra	Mag	S.E.M.	12	Cone	Sep	4	M	Bev	4.5	Sp	½-El	R-F*	R	W&S	Wd
Alda	131	820x120	4	3.5x5.5	2	4	Int	L	4	St'l	C	Ch	T	PS	Zenith	W	Gra	Mag	Pa-Rh	12	Cone	Sep	4	M	Bev	3.8	TT	Cant	R	R	S&N	
Amilcar	90	700x 80	4	2.2x3.7	2	3	Det	L	4	Alum	C	Gr	T	Spl	Solex	W	Gra	Mag	Fab	6	Plate	U-E	3	F	S-B	4.3	Sp-TT	¼-El	R	R	W&S	Wr
Amilcar	96	700x 80	4	2.3x3.7	2	3	Det	L	4	Alum	C	Gr	T	Spl	Solex	W	Gra	Mag	Fab	6	Plate	U-E	3	F	S-B	4.5	Sp-TT	¼-El	R	R	W&S	Wr
Ariès	100	700x 80	4	2.4x3.3	2	3	Det	I	4	Alum	H	Gr	T	PS	Zenith	W	Gra	Mag		12	Disk	Sep	3	F	Bev	4.9	TT	¼-El	R	R		
Ariès	114	815x105	4	2.8x4.7	2	3	Det	I	4	Alum	H	Gr	T	PS	Zenith	W	Gra	Mag		12	Disk	U-E	4	M	Bev	4.4	Sp	½-El	F	R	W&S	Wr
Ariès	125	880x120	4	3.3x5.5	3	4	Int	L	4	Iron	C	Gr	T	Pres	Zenith	W	Vac	Mag	S.E.V.	12	Disk	Sep	4	M	Bev	3.8	Sp-TT	½-El	T-F*	R	W&W	Wr
Ariès	125	880x120	4	3.3x5.5	3	4	Det	I	4	Alum	H	Gr	T	Pres	Zenith	W	Vac	Mag	S.E.V.	12	Disk	Sep	4	M	Bev	3.8	Sp-TT	½-El	T-F*	R	W&W	Wr
Astatic	80	700x 80	4	2.2x3.7	2	3	Det	L	4	Iron	C	Gr	T	PS	Zenith	W	Gra	Mag			Plate	U-E	3	F	Bev	4.8	R	Coil	R	T	Pln	Wr
Ballot	110	815x105	4	2.7x5.1	3	4	Int	I	4	Alum	H	Gr	P	Pres	Claudel	W	Vac	Mag	Delco	6	Cone	Sep	4	M	S-B	4.1	Sp	½-El	R	F	S&N	Wr
Ballot	119	820x120	4	2.7x5.1	3	3	Det	I	4	Alum	H	Gr	P	Pres	Zenith	W	Vac	M-D	Delco	6	Plate	U-E	4	M	S-B	4.5	Sp	½-El	F	R	S&N	Wr
Barré	110	760x 90	4	2.2x4.7	2	3	Int	L	4	Iron	C	Ch	T	Pres	Solex	W	Gra	Mag	Delco	6	Cone	U-E	4	M	Bev	4.6	Sp-TT	Cant	T	R	W&S	
Barré	119	820x120	4	2.9x4.7	2	4	Int	L	4	Iron	C	Ch	T	Pres	Zenith	W	Gra	Mag			Cone	Sep	4	M	Bev	4.0	Sp-TT	Cant	T	R	W&S	
Bazelaire	110	765x105	4	2.7x4.3	3	6	Int	I	4	Iron	H	Gr	T	Pres	Zenith	W	Vac	Mag	Gr&Da.	12	Cone	U-E	4	F	S-B		Sp	½-El	F	R	W&S	Dk
Bazelaire	130	820x120	4	3.1x5.5	3	4	Int	L	4	Iron	C	Gr	T	Pres	Zenith	W	Vac	Mag	Gr&Da.	12	Disk	Sep	4	F	S-B		Sp	½-El	F	R	W&S	Wr
Bazelaire	135	820x120	4	3.1x7.1	3	4	Int	L	4	Iron	C	Gr	P	Pres	Zenith	W	Vac	Mag	Gr&Da.	12	Disk	Sep	4	M	S-B		Sp	½-El	F	R	W&S	Wr
Bedelia	110	650x 75	2	3.1x3.5	2	4	Int	L	1	Iron	C	Gr	T	PS	Zenith	W	Gra	Mag	None		Fric		3		Belts			¼-El	R	R	R&P	Wr
Bellanger	108	815x105	4	3.5x5.0	2	3	Int	L	4	St'l	C	Gr	T	PS	Zenith	W	Vac	Bat	West	6	Disk	U-E	3	M	Bev	4.2	Sp-TT	½-El	T	R	W&S	Wd
Bellanger	147	895x135	4	3.7x5.9	3	4	Int	L	4	St'l	C	Gr	P	Pres	Zenith	W	Vac	Bat	West	6	Disk	U-E	4	M	Bev	2.2	Sp-TT	Cant	T-F	R	W&S	Dk
Bellanger	89	700x 75	4	2.1x3.2	2	4	Int	L	4	Alum	C	Gr	T	Pres	R.E.A.	W	Gra	Mag	Blér		Plate	U-A	3	M	Wm		TT	¼-El	R	R	W&S	Dk
Benjamin	89	700x 80	4	2.1x3.2	2	4	Int	I	4	Magm	H	Gr	T	Pres	R.E.A.	W	Gra	Mag	Blér		Plate	U-A	3	M	Wm		TT	¼-El	R	R	W&S	Dk
Benjamin	89	700x 80	4	2.1x3.2	2	4	Int	I	4	Magm	H	Gr	T	Pres	R.E.A.	W	Gra	Mag	Blér		Disk	U-A	3	M	Wm		TT	¼-El	R	R	W&S	Dk
Benjamin	104	700x 80	4	2.1x3.2	2	4	Int	L	4	Alum	C	Gr	T	Pres	Own	E	Vac	Mag	No-Ea	12	Disk	U-E	3	M	S-B	4.2	Sp-TT	Cant	R	R	W&S	
Berliet	118	765x105	4	3.1x5.1	3	3	Det	L	4	Iron	C	Gr	T	Pres	Own	E	Vac	Mag	No-Ea	12	Disk		4	M	S-B	4.2	Sp-TT	Cant	F		W&S	
Berliet	123	820x120	4	3.1x5.1	3	3	Det	L	4	Iron	C	Gr	T	Pres	Own	W	Vac	Mag	No-Ea	12	Disk	Sep	4	M	S-B	3.6	TT	Cant	F-R	R	W&S	
Berliet	140	895x150	4	3.9x5.5	3	4	Int	L	4	Iron	C	Gr	T	Pres	Own	W	Vac	Mag	No-Ea	12	Cone	U-E	3	M	Bev		Sp-TT	¼-El	R	R	W&S	Wr
Bignan	102	650x 65	4	2.4x3.5	2	4	Det	I	4	Alum	C	Gr	T	PS	Solex	W	Gra	Mag			Plate	U-E	4	M	S-B		Sp	½-El	F-T	F	W&S	Wr
Bignan	122	765x105	4	2.7x4.3	3	3	Det	I	4	Alum	H	Gr	T	Pres	Zenith	W	Vac	Mag	Marel	12	Plate	U-E	4	M	S-B	4.5	Sp	½-El	F-R	F-R	W&S	Wr
Bignan	119	820x120	4	2.9x4.4	3	4	Det	I	4	Magm	H	Gr	P	Pres	Viel	E	Vac	Mag	Marel	12	Plate	U-E	4	M	S-B	4.8	TT	¼-El	R	R	Pln	Dk
Bignan	94	650x 65	4	2.1x3.2	3	4	Int	I	4	Alum	C	Gr	T	PS	Solex		Gra	Mag	None		Disk	U-E	3		Bev		Sp-TT	Cant	R-F	R	W&S	Wd
Bollée (Léon)	118	765x105	4	2.8x4.7	3	3	Det	I	4	Iron	C	Ch	P	Pres	Zenith	W	Vac	Mag	S.E.V.	12	Disk	U-E	4	M	S-B		Sp	½-El	F-R	R	W&S	Wd
Bollée (Léon)	141	895x135	6	3.1x5.1	4	4	Det	I	6	Alum	H	Gr	P	Pres	Zenith	W	Vac	Mag	S.E.V.	12	Disk	U-E	4	M	Bev	3.1	Sp-TT	½-El	F-R	T	W&S	Wd
Brasier	122	815x105	4	2.9x4.7	5	4	Det	I	4	Iron	C	Ch	P	PS	Zenith	W	Vac	Bat	Delco	12	Plate	U-E	4	M	S-B		Fk	½-El	F-R	R	W&S	Wd
Brasier	134	880x120	4	3.3x5.9	3	4	Det	I	4	Iron	C	Ch	T	PS	Zenith	W	Vac	Mag	Delco	12	Cone	Sep	4	M	Bev	4.0	RR	½-El	T	R	W&S	Wr
Brasier	134	880x120	4	3.3x5.9	3	4	Det	I	4	Iron	C	Ch	T	PS	Zenith	W	Vac	Mag	Delco	12	Cone	Sep	4	M	Bev	4.0	RR	½-El	T	R	W&S	Wr
Buc	116	765x105	4	2.5x3.9	2	3	Int	V	1	Alum			T	Pres	Solex		Vac	M-D	Pa-Rh	12	Cone	U-E	4		S-B	3.7	TT	½-El	F-R	R	W&S	Wr
Buchet	114	760x 90	4	2.5x4.3	2	3	Int	L	4	Iron	C	Ch	T	PS	Zenith	W	Vac	Bat	Ducel	6	Cone	U-E	4		Bev	4.1	Sp	½-El	T-F*	R	W&S	
Bugatti	100	710x 90	4	2.7x3.9	3	4	Int	I	4	Alum	H	Gr	P	Pres	Zenith	W	Prs	Mag	Blér	12	Disk	Sep	4	M	Bev	3.4	Sp-TA	¼-El	T	R	S&N	Wr
Bugatti	123	820x120	8	2.4x3.5	3	4	Int	I	4	Alum	H	Gr	P	Pres	Zenith	W	Prs	Mag	Blér	12	Disk	Sep	4	M	Bev	3.8	Sp-TA	¼-El	F	R		Wr
Bugatti	123	820x120	8	2.7x3.9	9	4	Int	I	4	Alum	H	Gr	P	Pres	Own	W	Prs	Mag	Blér	12	Disk	U-A	2	M	Bev	4.4	Sp-RR	¼-El	R	R		Wr
Bugatti	123	820x120	8	2.7x3.9	9	4	Int	I	4	Alum	H	Gr	P	Pres	Own	W	Prs	Mag	Blér	12	Cone	U-E	4	M	S-B	4.4	Sp-RR	Cant	R-F*	T	W&S	
Buire (La.)	117	820x120	4	2.9x5.9	3	4	Int	L	4	Iron	C	Ch	P	Pres	Lac	W	Vac	Mag		12	Cone	U-E	4	M	S-B	4.1	Sp-TT	Cant	R-F*	T	W&S	
Buire (La.)	122	820x120	4	2.9x5.9	3	4	Det	I	4	Iron	C	Ch	P	Pres	Lac	W	Vac	Mag		12	Cone	U-E	4	M	S-B							
Causan	83	650x 65	1	2.9x3.1	2	4	Int	V	1	Alum			T	Spl	Zenith		Gra	Mag	None		Cone	U-A	2	F	Bev	5.6			R	R	Dir	
Charron	100	710x 90	4	2.3x3.9	2	4	Int	L	4	Iron	C	Ch	T	Spl	Zenith	W	Gra	Mag	West	6	Cone	Sep	3	M	S-B	4.6	Sp	½-El	R	R	W&S	Dk
Charron	134	880x120	4	3.3x5.9	3	3	Int	L	4	Alum	C	Ch	P	PS	Zenith	W	Vac	Mag	West	6	Cone	Sep	4	M	Bev	3.7	Sp-TT	Cant	R	R	W&S	Wr
Chenard & Walcker	111	700x 90	4	2.7x3.9	2	3	Int	L	4	Alum	C	Ch	T	PS	Solex	W	Gra	Mag	Gaumo	12	Disk	U-E	3	F	Bev	5.5	Sp-TT	½-El	T-R	R	W&S	Dk
Chenard & Walcker	111	760x 90	4	2.7x5.1	2		Int	L	4	Alum	C	Ch	T	PS	Solex	W	Gra	Mag	Gaumo	12	Cone	Sep	4	F	S-B	4.5	Sp-TT	½-El	T-R	R	W&S	
Chenard & Walcker	130	880x120	4	3.1x5.9	3	3	Int	L	4	Alum	C	Ch	T	PS	Solex	W	Vac	Mag	Gaumo	12	Cone	Sep	4	F	S-B	4.6	Sp-TT	½-El	T-R	R	W&S	
Chenard & Walcker	130	880x120	4	3.1x5.9	3	3	Det	I	4	Alum	H	Gr	T	PS	Own	E	Vac	Mag	Gaumo	12	Cone	U-E	4	F	S-B	4.6	Sp-TT	½-El	T-R	R-F	W&S	Wr
Chenard & Walcker	130	880x120	4	3.1x5.9	3	3	Det	I	4	Alum	H	Gr	T	PS	Solex	W	Vac	Mag	Gaumo	12	Cone	U-E	4	F	S-B	4.6	Sp-TT	½-El	T-R	R	W&S	Wr
Chenard (Louis)	112	760x 90	4	2.7x4.3	2	4	Int	I	4	Iron	C	Gr	T	Pres	Zenith	W	Gra	Mag	Ducel	6	Plate	U-E	4	M	S-B	4.6	Sp	½-El	F-R	T	W&S	Wr
Citroen	86	650x 65	4	2.2x3.5	2	3	Det	L	4	Iron	C	Gr	T	Pres	Solex	W	Gra	Mag	Own	6	Plate	U-E	3	F	H-B		Sp	¼-El	T	R	W&S	Dk
Citroen	114	710x 90	4	2.5x3.9	2	3	Det	L	4	Iron	C	Gr	T	Pres	Solex	W	Gra	Mag	Own	6	Plate	U-E	3	F	H-B	4.4	Sp	¼-El	T	R	W&S	Dk
Citroen	117	710x 90	4	2.7x3.9	2	3	Det	L	4	Alum	C	Gr	T	Pres	Solex	W	Gra	Mag	Own	6	Plate	U-E	3	F	H-B		Sp	¼-El	T	R	W&S	Dk
Corre-la-Licorne	102	710x 90	4	2.5x3.9	2	4	Int	L	4	Iron	C	Ch	T	PS	Solex	W	Gra	Mag		6	Cone	Sep	3	M	S-B	4.3	Sp	½-El	R-F*	R	W&S	Dk
Corre-la-Licorne	113	760x 90	4	2.6x4.7	2	4	Int	L	4	Iron	C	Ch	T	PS	Solex	W	Gra	Mag	Delco	6	Cone	Sep	4	M	S-B	4.3	Sp	½-El	R-F*	R	W&S	Dk
Corre-la-Licorne	134	880x120	4	3.1x5.5	2	4	Int	L	4	Iron	C	Ch	T	Pres	Zenith	W	Gra	Mag			Cone	Sep	4	M	Bev	5.7	Sp	½-El	R	R	W&S	Dk
Cottin-Desgouttes	123	820x120	4	3.1x5.1	5	4	Det	I	4	Alum	C	Gr	P	PS	Zenith	W	Vac	Dbl		12	Disk	U-E	4	M	S-B		TT	½-El	F-R	R	S&N	
Cottin-Desgouttes	134	880x120	4	3.5x6.3	3	4	Int	L	4	Iron	C	Ch	P	Pres	Zenith	W	Vac	Mag		12	Plate	U-E	4	M	S-B	3.7	Sp	Cant	T	R	S&N	
Dalila	80	700x 80	4	2.1x3.2	2	4	Int	I	4	Alum	C	Gr	T	PS	Solex		Gra	Mag	None		Plate	U-E	3		Bev	4.0	Fk	½-El	R	R	R&P	Wr
Dalila	80	700x 80	4	2.2x3.7	2	4	Int	I	4	Iron	C	Gr	T	PS	Solex	W	Gra	Mag	None		Plate	U-E	3		Bev	4.0	Fk	½-El	R	R	R&P	Wr
De Dion Bouton	117	760x 90	4	2.7x4.7	2	3	Det	L	4	Alum	C	Gr	P	Pres	Solex	W	Gra	Mag	Victr	12	Plate	U-E	4	M	S-B	4.4	Sp-TT	Cant	F-R	T	W&S	Dk
De Dion Bouton	130	815x105	4	3.1x5.1	3	3	Det	I	4	Alum	C	Gr	P	Pres	Zenith	W	Vac	Mag	Victr	12	Plate	U-E	4	M	S-B	4.2	Sp-TT	Cant	F-R	T	W&S	Dk
De Dion Bouton	136	880x120	4	3.5x5.1	3	3	Det	I	4	Alum	C	Gr	P	Pres	Zenith	W	Vac	Mag	Victr	12	Plate	U-E	4	M	S-B	4.0	Sp-TT	Cant	F-R	R	W&S	Dk
De Dion Bouton	136	880x120	8	2.7x4.7	3	3	Int	L	4	Alum	C	Gr	T	Pres	Zenith	W	Vac	Mag	Victr	12	Plate	U-E	4	M	S-B	4.0	Sp-TT	Cant	T	R	W&S	Dk

SPECIFICATIONS—*FRENCH PASSENGER CAR*

D.F.P.	110	760x 90	4	2.5x4.7	2	3	Int	L	4	Alum	C	Gr	T	PS	Claudel		Gra	Mag	Ducel	6	Cone	U-E	3	F	S-B	3.6	Sp	½-El	R	R	W&S	Dk
D.F.P.	115	765x105	4	2.7x5.1	3	4	Int	L	4	Alum	C	Gr	T	PS	Claudel		Vac	Mag	Ducel	6	Cone	Sep	4	F	S-B	3.6	Fk	Cant	T	R	W&S	Dk
D.F.P.	122	765x105	4	2.7x5.1	3	4	Int	L	4	Alum	C	Gr	T	PS	Claudel		Vac	Mag	Ducel	6	Plate	U-E	4	F	S-B	3.6	Fk	½-El	F-R	R	W&S	Wr
Defrance-Elfe	98	700x 80	4	2.1x3.7	2	4	Det	L	4	St'l	C	Gr	T	Spl	Solex	W	Gra	Mag	None		Plate	U-E	3	F	Bev	4.6	Sp	¼-El	R	R	S&N	
Delage	116	815x105	4	2.8x5.1	3	3	Det	L	4	Alum	C	Ch	T	PS	Zenith	W	Vac	Mag	S.E.V	12	Plate	U-E	4	M	S-B	4.4	Sp	½-El	F-R	R	W&S	Wr
Delage	135	895x135	6	3.1x5.9	4	4	Int	L	6	St'l	C	Ch	P	Pres	Zenith	W	Vac	Mag	S.E.V	12	Plate	U-E	4	M	S-B	3.5	Sp	½-El	F-R	T	W&S	Wr
Delage	135	895x135	6	3.1x5.9	4	4	Det	I	6	St'l	C	Ch	P	Pres	Solex	W	Vac	Mag	S.E.V	12	Plate	U-E	4	M	S-B	3.2	Sp	½-El	F-R	T	W&S	Wr
Delahaye	117	765x105	4	2.7x4.7	2	3	Int	L	4	Iron	C	Gr	P	PS	Cozette	W	Vac	Mag	S.E.V	12	Cone	U-E	4	F	S-B	4.3	Sp	½-El	T	R	W&S	Wd
Delahaye	127	820x120	4	3.3x5.1	2	3	Int	L	4	Alum	C	Gr	P	PS	Cozette	W	Vac	Mag	S.E.V	12	Cone	Sep	4	M	S-B	3.8	Sp	½-El	T	R	W&S	Dk
Delahaye	144	895x135	6	3.3x5.1	4	3	Int	L	6	Alum	C	Gr	P	PS	Cozette	W	Vac	Mag	S.E.V	12	Cone	U-E	4	M	S-B	4.0	Sp	½-El	F	T-R	W&S	Wr
Delaugère Clayette	110	760x 90	4	2.7x4.7	2	4	Int	L	4	Iron	C	Ch	T	PS	Solex	W	Gra	Mag	Delco	6	Cone	U-E	4	M	S-B		Sp	½-El	T	R	W&S	Dk
Delaugère Clayette	118	815x105	4	2.7x5.5	3	3	Det	I	4	Alum	C	Gr	T	Pres	Zenith	E	Vac	Mag	S.E.V	12	Cone	U-E	4	M	Bev	4.3	Sp	½-El	T	R	W&S	
Delaugère Clayette	125	820x120	4	3.3x5.5	3	3	Int	L	4	Alum	C	Gr	P	Pres	Zenith	W	Vac	Mag	S.E.V	12	Cone	U-E	4	M	Bev	4.0	Sp	½-El	T	R	W&S	
Delaugère Clayette	142	835x135	6	3.3x5.5	4	3	Int	L	6	Alum	C	Gr	P	Pres	Zenith	W	Vac	Mag	S.E.V	12	Cone	U-E	4	M	Bev	3.1	Sp	½-El	F-R	R	W&S	
Delaunay-Belleville	120	765x105	4	2.8x4.7	2	4	Det	L	4	Iron	C	Gr	P	Pres	Solex	W	Vac	Mag	S.E.V	12	Plate	U-E	4		S-B	4.2	Sp	½-El	T	R	S&N	Wd
Delaunay-Belleville	125	820x120	4	3.1x5.1	3	4	Det	I	4	Iron	H	Gr	P	Pres	Solex	W	Vac	Mag	S.E.V	12	Plate	U-E	4		S-B	4.2	Sp	½-El	F-T	R	S&N	Wd
Delaunay-Belleville	133	895x135	6	3.1x5.5	4	4	Int	L	6	Iron	C	Gr	P	Pres	Zenith	W	Vac	Mag	S.E.V	12	Disk	Sep	4		S-B	4.0	RR	Plat	F-T	R	S&N	Wd
Delaunay-Belleville	142	895x135	6	3.5x5.9	7	4	Int	L	6	Iron	C	Gr	P	Pres	Zenith	W	Vac	Mag	S.E.V	12	Disk	Sep	4		S-B	3.5	RR	Plat	F-T	R	S&N	Wd
Delaunay Berger & Boudens	102	700x 80	4	2.3x3.3	3	4	Det	L	4	Iron	C	Gr	T	PS	Solex	W	Gra	Mag	None		Cone	U-E	3	F	Bev	4.6	Sp	¼-El	T	R	R&P	Wr
Derby	94	700x 80	4	2.3x3.3	2	3	Det	L	4	Iron	C	Gr	T	PS	Zenith		Gra	Mag	None	6	Plate	U-E	3	F	Bev	4.2	Sp-TT	¼-El	R	R	W&S	
Desmoulins	137	820x120	4	2.9x5.1	2	3	Int	L	4	Iron	C	Ch	T	Pres	Cozette	W	Vac	Mag	Pa-Rh	12	Disk	None	1	M	Wm	3.0	Sp	Spec	T-F*	R	W&S	Dk
Dewald	141	895x135	8	2.9x4.1	5	4	Det	I	8	Iron	H	Gr	P	Pres	Zenith		Vac	Mag	Ducel	16	Disk	U-E	4	M	Bev	3.0	TT	½-El	R	R	W&S	Wd
E.H.P.	90	710x 90	4	2.2x3.7	2	4	Det	I	4	Iron	C	Gr	T	PS	Zenith	W	Gra	Mag	None		Disk	Sep	3	F	Bev	4.6	Fk	Cant	R	R	W&S	Wr
Exau	90	700x 80	4	2.2x3.7	2	4	Det	L	4	Iron	C	Gr	T	PS	Zenith	W	Gra	Mag	None	6	Plate	U-E	3	F	Bev	4.4	Sp-TT	¼-El	R	R	W&S	Wr
Farman[1]	143	895x135	6	3.9x5.5	3	4	Int	I	1	Alum	H	Gr	P	Pres	Zenith	W	Vac	M-D	Blér	12	Disk	Sep	4	M	S-B	3.4	TT	Cant	F-R	R	S&N	Wr
Farman	143	895x135	6	3.9x5.5	3	4	Int	I	1	Alum	H	Gr	P	Pres	Zenith	W	Vac	M-D	Blér	12	Disk	Sep	4	M	S-B	3.4	TT	Cant	F-R	R	S&N	Wr
Fournier	83	650x 75	4	2.2x3.7	2	3	Int	L	4	Iron	C	Gr	T	Pres	Longu	W	Gra	Mag	None		Frict		5		Chn		RR	¼-El	R	R	R&P	Wr
Fournier	98	650x 75	4	2.2x3.7	2	4	Int	I	4	Iron	C	Gr	T	Pres	Longu	W	Prs	Mag	None		Frict		5		Chn	4.0	RR	¼-El	R	R	R&P	Wr
Fox	111	765x105	4	2.7x4.7	2	4	Det	L	4	Iron	C	Ch	T	Pres	Solex		Gra	Mag	Pa-Rh	12	Cone	U-E	4		Bev	4.2	Sp	½-El	R-F*	R	W&S	Dk
Françon 2-stroke	90	650x 65	2	2.1x3.9	2	4	Int	V	2	Iron		Ch	T	PS	Solex	W	Gra	Mag	None		Frict		4		Chn		Sp	¼-El	R	R	Spur	Dk
G.A.R.	102	700x 80	4	2.3x3.3	2	3	Det	L	4	Iron	C	Gr	T	PS	Solex	W	Gra	Mag			Cone	U-E	3	F	Bev	4.5	TT	¼-El	T	R	W&S	Wr
Gobron	111	765x105	4	2.7x3.9	2	3	Det	I	4	Iron	C	Gr	T	Pres	Solex	W	Vac	Bat	Am Bos	6	Cone	U-E	3	F	S-B	5.0	Fk	Cant	R	T	S&N	Wr
Hispano-Suiza	145	895x135	6	3.9x5.5	7	4	Int	I	6	Alum	H	Gr	P	Pres	Solex	W	Vac	Bat	Blér	12	Plate	U-E	3	M	S-B	3.5	TT	½-El	F-R	R	S&N	Wr
Hotchkiss	120	820x120	4	3.1x4.7	3	4	Det	L	4	Alum	C	Gr	T	Pres	Zenith	W	Vac	Mag	Blér	12	Plate	U-E	4	F	S-B	4.5	Sp	½-El	F-R	R	S&N	Wr
Hotchkiss	132	895x135	4	3.7x5.5	3	4	Det	I	4	Alum	C	Gr	P	Pres	Zenith	W	Vac	Mag	Blér	12	Cone	Sep	4	M	S-B	4.3	F	Cant	F-R	F-R	S&N	Wr
Hurtu	120	765x105	4	2.7x5.1	3	3	Det	I	4	Iron	C	Ch	T	PS	Solex	W	Gra	Mag	Pa-Rh	12	Plate	U-E	4	M	S-B	4.0	Sp-TT	Cant	F-R	R	S&N	Wr
Hurtu	118	765x105	4	3.0x5.1	3	3	Int	L	4	Iron	C	Ch	T	PS	Solex	W	Gra	Mag	Pa-Rh	12	Cone	U-E	4	M	Bev	4.0	Sp-RR	Cant	T	R	S&N	Wr
Irat (Georges)	118	815x105	4	2.7x5.1	3	4	Det	I	4	Alum	C	Ch	P	Pres	Zenith	W	Vac	Bat	Delco	6	Disk	U-E	4	M	S-B	4.7	p	½-El	F-R	R	W&S	Wr
Kevah	92	700x 80	4	2.3x3.9	3	3	Det	L	4	Iron	C	Gr	T	Pres	Zenith		Gra	Mag	None		Cone	U-E	3	F	Bev	4.6	Sp	½-El	R	R	W&S	Wr
Laisne (Léon)	118	765x105	6	2.7x5.1	2	6	Int	I	6	Iron	C	Gr	T	Pres	Zenith	W	Gra	Mag	West	6	Disk	U-E	4	R	S-B	4.6	RR-TT	Coil	R	R	S&N	Dk
Laisne (Léon)	118	765x105	4	2.9x5.1	2	4	Int	L	4	Iron	C	Ch	T	Pres	Zenith	W	Gra	Mag			Cone	U-E	3		Bev		RR-TT	Coil	T	R	S&N	Dk
Lorraine-Dietrich	115	815x105	4	2 9x5.1	3	3	Int	I	4	Iron	C	Ch	P	Pres	Zenith	W	Gra	Bat	Delco	6	Plate	U-E	3	M	Bev	4.5	TT	Cant	R-F*	R	S&N	
Lorraine-Dietrich	130	820x120	6	2.9x5.1	4	3	Int	I	6	Alum	C	Gr	P	Pres	Zenith	W	Gra	Bat	Delco	6	Plate	U-E	3	M	S-B	3.9	TT	Cant	R-F*	R	S&N	
Lorraine-Dietrich	131	935x135	6	3.5x6.3	7	4	Int	I	3	Alum	C	Ch	P	Pres	Zenith	W	Prs	M-D	Delco	6	Disk	Sep	4	M	S-B	3.2	RR	¾-El	T	R	S&N	Wr
Majola	96	710x 90	4	2.4x3.5	2	4	Int	I	4	Iron	H	Ch	T	PS	Claudel	W	Gra	Mag	Ducel	6	Disk	Sep	4	M	Bev	4.6	Sp	½-El	T	R	W&S	Dk
Majola	110	760x 90	4	2.5x3.9	2	4	Int	I	4	Iron	H	Ch	T	PS	Claudel	W	Gra	Mag	Ducel	6	Disk	Sep	4	M	Bev	4.3	Sp	½-El	T	R	W&S	Dk
M.A.S.E.	100	700x 80	4	2.4x3.8	2	3	Int	I	4	Alum	C	Gr	T	Pres	Own	W	Gra	Mag	None		Cone	Sep	3		Bev	3.5	SP-TT	Cant	T	R	W&S	Wr
Mathis	89	650x 65	4	2.2x3.1	3	3	Int	L	4	Alum	C	Gr	T	Spl	Solex	W	Gra	Mag	Ducel	6	Disk	U-E	4	F	Bev	5.1	Sp	½-El	R	R	W&S	Dk
Mathis	94	710x 90	4	2.4x3.9	3	3	Int	L	4	Iron	C	Ch	T	Spl	Solex	W	Gra	Mag	Blér	12	Disk	U-E	4	F	Bev	4.6	Sp	½-El	R	R	W&S	Dk
Mathis	89	710x 90	6	2.1x3.1	3	3	Int	L	6	Alum	C	Gr	T	Pres	Solex	W	Gra	Mag	Blér	12	Disk	U-E	4	F	Bev	4.6	Sp	½-El	F-R	R	W&S	Dk
Mathis	94	710x 90	6	2.3x2.7	4	3	Int	I	6	Alum	H	Gr	T	Pres	Solex	W	Gra	Mag	Blér	12	Disk	U-E	4	F	Bev	4.6	Sp	½-El	F-R	R	W&S	Dk
Mauve	90	700x 80	4	2.2x3.9	2	4	Int	I	4	Alum	H	Gr	T	Pres	Solex		Gra	Mag	None		Cone	U-E	3			4.0	Sp	½-El	R	R	W&S	Wr
Morgan	83	650x 65	2	3.3x3.9	2	4	Int	L	1	Alum	C	Gr	T	Spl	Solex		Gra	Mag	None		Cone	Sep	2		Chn	2.5	Sp	¼-El	R	R	Dir	Wr
Mors	122	765x105	4	2.9x4.3	3	4	Det	S	4	Alum	C	Ch	P	PS	Solex	E	Vac	Mag	Ducel	12	Band	Sep	4	F	H-B	4.3	Sp	½-El	T	R	W&S	Wr
Mors	129	820x120	4	3.5x5.5	3	4	Det	S	4	Alum	C	Ch	P	PS	Solex	E	Vac	Mag	Ducel	12	Band	Sep	4	F	H-B	3.5	Sp	½-El	T-F*	R	W&S	Wr
Motobloc	118	760x 90	4	2.5x4.3	4	4	Det	L	4	Alum	C	Gr	P	Pres	Zenith	W	Vac	Mag	Pa-Rh	6	Disk	U-E	3	M	Bev		Sp	Cant	R	R	W&S	Dk
Motobloc	133	820x120	4	3.1x5.5	4	4	Int	L	4	Alum	C	Ch	P	Pres	Zenith	W	Vac	Mag	Pa-Rh	12	Disk	U-E	4	M	S-B		Sp	½-El	T-F*	R	W&S	
Mouette (La.)	110	710x 90	4	2.5x3.9	2	4	Det	L	4	Iron	C	Ch	T	Pres	Zenith		Gra	Mag	Ducel	6	Disk	Sep	4	M	S-B	4.6	Sp	¾-El	R	R	W&S	Dk
Mouette (La.)	114	760x 90	4	2.7x3.9	2	4	Det	L	4	Iron	C	Ch	T	Pres	Zenith		Gra	Mag	Ducel	6	Disk	Sep	4	M	S-B	4.6	Sp	Plat	R	R	W&S	Dk
Mouette (La)	114	765x105	4	2.7x5.1	2	4	Det	L	4	Iron	C	Ch	T	Pres	Zenith		Gra	Mag	Ducel	6	Disk	Sep	4	M	S-B	4.6	Sp	Plat	R	R	W&S	Dk
M.S.	108	700x 80	4	2.3x3.3	2	3	Det	L	4	Iron	C	Gr	T	PS	Zenith	W	Gra	Mag			Plate	U-E	3		Bev	4.5	Sp	Cant	R	R	S&N	Wr
Omega	130	820x120	6	2.5x3.9	3	3	Det	I	6	Alum	H	Gr	P	Pres	Cozette	W	Vac	Mag	Blér	12	Cone	U-E	3	M	S-B		TT	½-El	F	R	W&S	Wr
Panhard & Levassor	106	760x 90	4	2.4x3.9	2	3	Det	S	4	Alum	C	Ch	T	Spl	Own	W	Prs	Mag	Pa-Rh	6	Cone	U-E	4	R	S-B	5.2	TT	¼-El	R	R	S&N	Wd
Panhard & Levassor	119	765x105	4	2.9x5.1	3	3	Det	S	4	Alum	C	Ch	P	Spl	Own	W	Prs	Mag	Pa-Rh	12	Plate	U-E	4	R	S-B	4.5	TT	½-El	R	R	S&N	Wd
Panhard & Levassor	130	820x120	4	3.3x5.5	3	3	Det	S	4	Alum	C	Ch	P	Spl	Own	W	Prs	Mag	Pa-Rh	12	Plate	U-E	4	R	S-B	4.0	TT	½-El	R	R	S&N	Wd
Panhard & Levassor	137	880x120	4	3.9x5.5	5	3	Det	S	4	Alum	C	Ch	P	Spl	Own	W	Prs	Mag	Pa-Rh	12	Plate	U-E	4	R	S-B	3.3	TT	½-El	R-F*	R	S&N	Wd
Panhard & Levassor	148	895x135	8	3.3x5.5	9	3	Det	S	8	Alum	C	Ch	P	Spl	Own	W	Prs	Mag	Pa-Rh	16	Plate	U-E	4	R	S-B	3.3	TT	½-El	R-F*	R	S&N	Wd
Paulet	126	895x135	6	3.1x5.1	7	4	Det	I	6	Alum	H	Gr	P	Pres	Zenith	W	Vac	Bat	Delco	6	Disk	U-E	3	M	S-B	4.3	Sp	½-El	F	T-R	W&S	Wr
Perle (La)	104	710x 90	4	2.4x4.9	2	4	Det	I	4	Iron	C	Gr	P	Pres	Solex	W	Gra	Bat			Disk	U-E	4	F	S-B	4.2	Sp	½-El	R-F*	R	W&S	Wr
Peugeot	89	650x 65	4	2.0x3.3	2	4	Int	L	4	Alum	C	Ch	T	PS	Zenith	W	Gra	Mag	Ducel	6	Plate	U-A	3	M	Wm	5.2	TT	¼-El	R	R		Dk
Peugeot	88	760x 90	4	2.6x4.3	2	3	Int	L	4	Iron	C	Ch	T	Spl	Zenith	W	Gra	Mag	R.B.	6	Disk	U-E	4	M	Wm	5.2	Sp-TT	Cant	R-F*	R	S&N	Wd
Peugeot	103	760x 90	4	2.6x4.3	2	3	Int	L	4	Alum	C	Ch	T	Spl	Zenith	W	Vac	Mag	Own	6	Disk	U-E	4	M	Wm	5.2	Sp-TT	Cant	R-F*	R	S&N	Wd
Peugeot	105	710x 90	4	2.7x4.3	2	3	Det	I	4	Alum	C	Ch	T	Spl	Zenith	W	Vac	Mag	R.B.	6	Disk	U-E	4	M	S-B	4.4	Sp-TT	Cant	R-F*	R	S&N	Dk
Peugeot	122	820x120	4	3.3x5.1	3	4	Int	L	4	Iron	C	Ch	P	Pres	Zenith	W	Vac	Mag	S.E.V	12	Plate	Sep	4	M	Wm	4.1	Sp-TT	Cant	R-F*	R	S&N	Wd
Peugeot	121	820x120	4	3.3x5.1	3	4	Det	I	4	Alum	C	Ch	P	Pres	Zenith	W	Vac	Mag	S.E.V	12	Plate	Sep	4	M	S-B	3.8	Sp-TT	½-El	R-F*	R	S&N	Wr
Peugeot	137	895x135	4	3.7x5.3	5	3	Det	S	4	Iron	C	Ch	P	Pres	Zenith	W	Vac	Mag	Blér	12	Plate	U-E	4	M	S-B	3.5	TT	½-El	F-R	F-R	S&N	Wr
Peugeot	134	895x135	6	3.7x5.5	4	4	Det	S	6	Iron	C	Ch	P	Pres	Zenith	W	Vac	Mag	S.E.V	12	Plate	Sep	4	M	S-B	3.2	Sp-TT	Cant	R-F*	R	S&N	Wr
Phrixus	92	700x 80	4	2.3x3.3	2	3	Det	L	4	St'l	C	Gr	T	PS	Solex	W	Gra	Mag	None		Disk	U-E	3	M	Bev	3.5	TT	¼-El	R	R	R&P	Wr

[1] Farman. Forged steel cylinders with welded jacket.

For abbreviations see page 401.

Continental Passenger Car Chassis Specifications (Continued)

MAKE	Wheelbase (Ins.)	Tire Size (mm.)	ENGINE: No. of Cylinders	Bore and Stroke (mm.)	No. of Main Bearings	No. of Point Suspension	Cylinder Head	Valve Arrangement	Cylinders Cast	Piston Material	Camshaft: Location	Camshaft: Drive	Cooling	Oiling System	Fuel System: Carburetor Make	Fuel System: Intake Manifold Heated By	Fuel System: Fuel Feed	ELECTRICAL SYSTEM: Current Sources	Generator Make	Voltage	TRANSMISSION: Clutch Type	Gearset Location	No. of Forward Speeds	Universal Type	Final Drive	Gear Ratio	Propulsion and Torque Taken by	RUNNING GEAR: Rear Springs Type	Brakes: Foot	Brakes: Hand	Steering Gear Type	Wheels Type
FRENCH—*Cont.*																															
Phrixus	92	700x 80	4	2 2x4 .3	2	4	Det.	I.	4	St'l.	C.	Gr.	T.	Pres.	Claudel.	W.	Gra.	Mag.	None		Frict.		5	M.	Chn.	3 .6	RR	¼-El.	F.	F.	R&P.	Wr.
Ponette, (La)	114	710x 90	4	2 .5x4 .7	2	4	Int.	L.	4	Iron.	C.	Ch.	T.	PS.	Solex.	W.	Vac.	Mag.	Delco	6	Plate.	U-E.	4		Bev.		Sp.	¼-El.	T.	R.	W&S.	Wr.
Ponette, (La)	96	710x 90	4	2 .7x4 .3	3	4	Int.	I.	4	Iron.	H.	Gr.	T.	PS.	Zenith.	W.	Vac.	Mag.	Delco	6	Plate.	U-E.	4		Bev.	3 .6	Fk.	¼-El.	T-F*.	R.	W&S.	Wr.
Rally	86	700x 80	4	2 .3x3 .9	2	3	Det.	I.	4	Alum.	C.	Gr.	T.	Pres.	Zenith.		Gra.	Mag.	Own	6	Cone.	U-E.	3	F.	S-B.	4 0	Sp.	½-El.	F-R.	R.	S&N.	Wr.
Rally	86	700x 80	4	2 .4x3 .3	2	3	Det.	L.	4	Iron.	C.	Gr.	T.	Pres.	Zenith.		Gra.	Mag.	Own	6	Cone.	U-E.	3	F.	S-B.	4 0	Sp.	½-El.	F-R.	R.	S&N.	Wr.
Rally	86	700x 80	4	2 .4x3 .6	2	3	Det.	I.	4	Alum.	C.	Gr.	T.	Pres.	Zenith.		Gra.	Mag.	Own	6	Cone.	U-E.	3	F.	S-B.	4 0	Sp.	½-El.	F-R.	R.	S&N.	Wr.
Renault	96	700x 80	4	2 .3x3 .5	2	4	Det.	L.	4	Iron.	C.	Gr.	T.	PS.	Own.	E.	Gra.	Mag.	S.E.V.	12	Cone.	Sep.	3	M.	S-B.		TT.	Tran.	R.	R.	W&S.	Dk.
Renault	110	760x 90	4	2 .9x4 .7	2	4	Int.	L.	4	Iron.	C.	Gr.	T.	PS.	Own.	E.	Gra.	Mag.	S.E.V.	12	Cone.	Sep.	3	M.	S-B.		TT.	Tran.	R.	R.	W&S.	Dk.
Renault	125	820x120	4	3 .1x5 .5	3	4	Int.	L.	4	Iron.	C.	Ch.	T.	PS.	Own.	W.	Vac.	Mag.	S.E.V.	12	Cone.	Sep.	4	M.	S-B.		TT.	Cant.	T-F*	R.	W&S.	Wd.
Renault	150	895x135	6	3 .1x5 .5	4	4	Int.	L.	3	Iron.	C.	Ch.	T.	PS.	Own.	W.	Vac.	Mag.	S.E.V.	12	Cone.	Sep.	4	M.	S-B.		TT.	Cant.	T-F*	R.	W&S.	Wd.
Renault	157	895x135	6	4 .3x6 .3	7	4	Int.	L.	3	Iron.	C.	Ch.	T.	PS.	Own.	W.	Vac.	Mag.	S.E.V.	12	Cone.	Sep.	4	M.	S-B.		TT.	Cant.	F-R.	R.	W&S.	Wd.
Rochet-Schneider	119	820x120	4	3 .1x5 .1	3	3	Int.	L.	4	Alum.	C.	Gr.	T.	Pres.	Zenith.	W.	Vac.	Mag.	S.E.V.	12	Cone.	U-E.	4	M.	S-B.	4 4	Sp-TT.	Cant.	T.	R.	W&S.	
Rochet-Schneider	134	880x120	4	3 .7x5 .5	3	3	Int.	L.	4	Alum.	C.	Gr.	T.	Pres.	Zenith.	W.	Vac.	Mag.	Blér.	12	Cone.	U-E.	4	M.	S-B.	4 1	Sp-TT.	Cant.	T-F*	R.	W&S.	
Rochet-Schneider	140	825x135	6	3 .9x5 .1	3	4	Int.	L.	6	Iron.	C.	Gr.	P.	Pres.	Zenith.	W.	Vac.	Mag.	Blér.	12	Cone.	Sep.	4	M.	S-B.	3 8	Sp-TT.	Cant.	F-T.	R.	W&S.	
Rolland-Pilain	104	765x105	4	2 .7x4 .7	3	4	Int.	L.	4	Iron.	C.	Gr.	T.	Pres.	Zenith.	W.	Vac.	Mag.	Ducel	12	Cone.	U-E.	4	M.	Bev.	4 2	Sp.	½-El.	T.	R.	W&S.	Wr.
Rolland-Pilain	124	815x105	4	2 .9x5 .1	3	4	Int.	L.	4	Alum.	C.	Gr.	T.	Pres.	Zenith.	W.	Vac.	Mag.	Ducel	12	Cone.	U-E.	4	M.	Bev.	4 2	Sp.	½-El.	F.	R.	W&S.	Wr.
Rolland-Pilain	119	815x105	4	2 .9x5 .1	3	4	Det.	I.	4	Alum.	C.	Gr.	P.	Pres.	Zenith.	W.	Vac.	Mag.	Ducel	12	Cone.	U-E.	4	M.	S-B.	4 7	Sp.	½-El.	F.	R.	W&S.	Wr.
Rolland-Pilain	133	880x120	4	3 .7x5 .5	3	4	Int.	I.	4	Alum.	C.	Gr.	T.	Pres.	Zenith.	W.	Vac.	Mag.	Ducel	12	Plate.	U-E.	4	M.	S-B.	3 2	Sp.	½-El.	F.	R.	W&S.	Wr.
Roy (Georges)	110	760x 90	4	2 .5x3 .9	2	4	Int.	L.	4	Iron.	C.	Ch.	T.	PS.	Zenith.	W.	Vac.	Mag.			Cone.	Sep.	4	M.	Bev.		Sp.	½-El.	F-R.	R.	W&S.	Dk.
Roy (Georges)	126	815x105	4	3 .3x5 .1	3	4	Int.	L.	4	Iron.	C.	Ch.	P.	Pres.	Zenith.	W.	Vac.	Mag.			Cone.	U-E.	4	M.	Bev.		Sp.	½-El.	F-R.	R.	W&S.	Dk.
Ryjam	118	760x 80	4	2 .7x4 .3	3	6	Int.	I.	4	Iron.	H.	Ch.	T.	Pres.	Zenith.		Gra.	Mag.	Bérd	6	Cone.	Sep.	4		Bev.	4 6	Sp.	½-El.	T.	R.	W&W.	
Ryjam	125	815x105	4	2 .9x5 .1	2	4	Int.	I.	4	Iron.	C.	Ch.	T.	Pres.	Zenith.		Gra.	Mag.	West.	6	Plate.	U-E.	4	F.	Bev.	4 0	Fk.	½-El.	T.	R.	W&S.	Wr.
S.A.R.A.	99	700x 80	4	2 .4x3 .6	3	3	Int.	I.	1	Alum.	C.	Gr.	A.	PS.	Solex.		Gra.	Mag.	West.	6	Plate.	U-E.	3	M.	S-B.		Sp-TT.	¼-El.	R.	R.	W&S.	Dk.
Salmson	101	650x 65	4	2 .4x3 .5	2	3	Det.	I.	4	Alum.	C.	Gr.	T.	PS.	Solex.	W.	Gra.	Mag.	None		Cone.	U-E.	3	M.	Bev.	4 0	TT.	¼-El.	R.	R.	W&S.	Wr.
Salmson	112	710x 90	4	2 .5x3 .5	2	3	Det.	I.	4	Alum.	H.	Gr.	T.	PS.	Solex.	W.	Gra.	Mag.			Cone.	U-E.	3	M.	Bev.	4 0	TT.	¼-El.	R.	R.	W&S.	Wr.
S.C.A.P.	125	815x105	4	3 .0x5 .1	3	4	Det.	L.	4	Alum.	C.	Gr.	P.	Pres.	Zenith.	W.	Vac.	Mag.	Own	12	Cone.	Sep.	4	F.	Bev.	4 3	Sp.	Plat.	R.	T.	W&S.	Wd.
Secqueville-Hoyau	106	760x 90	4	2 .4x4 .3	3	3	Int.	L.	4	Iron.	C.	Gr.	T.	PS.	Zenith.	W.	Vac.	Mag.	Ducel	6	Plate.	U-E.	4	M.	Bev.	4 5	Sp.	½-El.	R.	R.	W&W.	Wr.
Schneider (Th)	118	765x105	4	2 .8x4 .7	3	3	Det.	L.	4	Alum.	C.	Ch.	T.	Pres.	Zenith.	W.	Gra.	Mag.	Pa-Rh.	12	Cone.	U-E.	4	M.	S-B.		Sp.	½-El.	R.	R.	W&W.	Wd.
Schneider (Th)	129	835x135	4	3 .3x5 .5	3	4	Det.	L.	4	Iron.	C.	Ch.	P.	Pres.	Zenith.	W.	Vac.	Mag.	Pa-Rh.	12	Plate.	U-E.	4	M.	S-B.		TT.	Cant.	R.	T.	S&N.	Wr.
Schneider (Th)	143	895x135	6	3 .2x5 .5	7	4	Det.	L.	3	Iron.	C.	Ch.	P.	Pres.	Zenith.	W.	Vac.	Mag.	Pa-Rh.	12	Plate.	U-E.	4	M.	S-B.		TT.	Cant.	R.	T.	S&N.	Wr.
Senechal	78	650x 65	2	3 .1x3 .9	2	4	Int.	L.	1	Iron.	C.	Gr.	T.	PS.	Zenith.		Gra.	Mag.	None		Plate.	U-A.	2	F.	Bev.	4 1	Sp-TT.	¼-El.	R.	R.	Dir.	Wr.
Senechal	86	650x 65	4	2 .2x3 .7	2	3	Int.	L.	4	Iron.	C.	Gr.	T.	PS.	Solex.	W.	Gra.	Mag.	None		Plate.	U-E.	3	F.	Bev.	4 0	Sp-TT.	¼-El.	R.	R.	Dir.	Wr.
Senechal	86	700x 80	4	2 .2x3 .7	2	3	Int.	L.	4	Alum.	C.	Gr.	T.	PS.	Solex.		Gra.	Mag.	None		Plate.	U-E.	3	F.	Bev.	4 0	Sp-TT.	¼-El.	R.	R.	Dir.	Wr.
Sidea	110	710x 90	4	2 .4x3 .9	2	4	Int.	I.	4	Alum.	C.	Gr.	T.	PS.	Solex.	W.	Gra.	Mag.	Blér.	6	Cone.	Sep.	3	F.	Bev.	5 0	Sp-TT.	¼-El.	F.	R.	W&S.	Wr.
Sidea	116	760x 90	4	2 .7x4 .3	2	4	Int.	I.	4	Alum.	H.	Gr.	T.	Pres.	Solex.	W.	Gra.	Mag.	West.	6	Plate.	U-E.	4	M.	Bev.	4 5	Sp.	½-El.	R-F*.	R.	W&S.	Wr.
Sizaire Berwick	143	895x135	4	3 .7x6 .3	5	4	Int.	I.	4	Alum.	C.	Gr.	P.	Pres.	Cozette.	W.	Vac.	Mag.	Blér.	12	Plate.	Sep.	4	M.	S-B.	4 0	Sp.	½-El.	F-T.	R.	W&W.	Wr.
S.L.I.M.	109	765x105	4	2 .7x5 .1	2	3	Det.	I.	4	Iron.	C.	Gr.	P.	Pres.	Lacharn.	W.	Vac.	Mag.	Pa-Rh.	12	Cone.	U-A.	4	M.	Bev.	4 4	Sp.	¼-El.	F-R.	R.	W&S.	Dk.
S.L.I.M.	113	820x120	4	2 .3x5 .1	2	3	Det.	I.	4	Iron.	C.	Gr.	P.	Pres.	Lacharn.	W.	Vac.	Mag.	Pa-Rh.	12	Cone.	U-A	4	M.	Bev.	4 0	Sp.	¼-El.	F-R.	R.	W&S.	Dk.
Sphinx	86	700x 80	2	3 .5x4 .3	2	4	Det.	L.	2	Alum.	C.	Gr.	T.	Pres.	Solex.	W.	Gra.	Bat.	Delco	6	Belt.	Sep.	2		Chn.	3 .0	RR-Sp.	½-El.	T.	R.	Dir.	Dk.
Suère	111	710x 90	4	2 .7x4 .7	2	4	Det.	L.	4	Iron.	C.	Gr.	T.	PS.	Zenith.	E.	Gra.	Mag.	Am.Bos.	6	Plate.	U-E.	3	F.	S-B.	3 .9	Sp-TT.	Cant.	R-F*.	T.	W&W.	Dk.
Swan	104	710x 90	4	2 .4x4 .3	2	4	Int.	L.	4	Iron.	C.	Gr.	T.	PS.	Zenith.		Gra.	Mag.	Ducel	6	Disk.	Sep.	4	M.	Bev.	4 1	Sp.	½-El.	R.	R.	W&S.	
Swan	114	760x 90	4	2 .6x5 .1	2	4	Int.	L.	4	Iron.	C.	Gr.	T.	PS.	Zenith.		Gra.	Mag.	Ducel	6	Disk.	Sep.	4	M.	Bev.	4 2	Fk-TT.	½-El.	R.	R.	W&S.	
Talbot-Darracq	118	765x105	4	2 .7x4 .3	3	4	Det.	I.	4	Alum.	C.	Ch.	P.	Pres.	Zenith.	E.	Gra.	Mag.	Delco	6	Plate.	U-E.	3	M.	S-B.		TT.	Cant.	R.	R.	W&N.	Wd.
Talbot-Darracq	123	820x120	4	3 .3x5 .1	3	4	Int.	L.	4	Iron.	C.	Ch.	P.	Pres.	Smith.	W.	Vac.	Mag.	Delco	6	Cone.	Sep.	4	M.	Wm.		Sp-RR.	Cant.	T.	R.	S&N.	Wd.
Talbot-Darracq	130	835x125	8	2 .9x5 .1	3	4	Det.	L.	4	Alum.	C.	Ch.	P.	Pres.	Smith.	W.	Vac.	Bat.	Delco	6	Plate.	U-E.	4	M.	S-B.		Sp.	Cant.	F.	R.	S&N.	Wr.
Traction Aérienne	98	710x 80	2	3 .5x4 .7	2	4	Det.	L.	1	Alum.	C.	Gr.	A.	Pres.	Claudel.		Gra.	Mag.	Pa-Rh.	12	None.	None.	1		Ppr.			½-El.	F.	F.	R&P.	Wr.
Turcat-Méry	111	820x120	4	3 .1x5 .5	3	3	Det.	I.	4	Alum.	H.	Gr.	P.	Pres.	Zenith.	W.	Vac.	Bat.	Delco	6	Plate.	U-E.	4	M.	S-B.		Sp.	½-El.	F.	R.	W&S.	Dk.
Turcat-Méry	129	820x120	4	3 .1x5 .9	3	3	Int.	L.	4		C.	Ch.	T.	Pres.	Zenith.	W.	Vac.	Bat.	Delco	6	Cone.	U-E.	4	M.	S-B.		Sp.	½-El.	F.	R.	W&S.	Wr.
Unic	118	765x105	4	2 .7x4 .7	2	3	Det.	L.	4	Alum.	C.	Ch.	T.	Pres.	Viel.	E.	Vac.	Mag.	Ducel	12	Disk.	U-E.	4	M.	S-B.	4 3	Sp.	¼-El.	F-T.	R.	W&S.	Dk.
Unic	118	765x105	4	2 .9x4 .7	2	3	Det.	L.	4	Alum.	C.	Ch.	T.	Pres.	Viel.	E.	Vac.	Mag.	Ducel	12	Disk.	U-E.	4	M.	S-B.	4 6	Sp.	¼-El.	F-T.	R.	W&S.	Wr.
Unic	126	820x120	4	3 .1x5 .1	2	4	Int.	L.	4	Iron.	C.	Ch.	P.	Pres.	Own.	E.	Vac.	Mag.	Ducel	12	Disk.	Sep.	4	M.	S-B.		Sp.	Cant.	T.	R.	W&S.	Wr.
Utilis	68	600x 55	2	3 .0x3 .0	2	3	Int.	V.	1	Iron.	C.		A.	Spl.	Amac.		Gra.	Mag.	Rads.	6	Plate.	Sep.	2		Belt.	5 .5	Sp.	¼-El.	T.	R.	Dir.	Wr.
Vermorel	114	765x105	4	2 .5x4 .3	2	3	Int.	L.	4	Iron.	C.	Bv.	T.	Pres.	Zenith.	W.	Vac.	Mag.	Pa-Rh.	12	Cone.	U-E.	4	F.	S-B.	5 0	Sp.	½-El.	T-F*.	R.	W&S.	Dk.
Vermorel	122	820x120	4	3 .1x5 .1	3	3	Int.	L.	4	Iron.	C.	Gr.	T.	Pres.	Zenith.	W.	Vac.	Mag.	Pa-Rh.	12	Cone.	U-E.	4	M.	S-B.	5 0	Sp.	Cant.	T-F*.	R.	W&S.	
Vinot-Deguingand	115	765x105	4	2 .7x4 .7	3	4	Int.	I.	4	Alum.	C.	Gr.	P.	Pres.	Zenith.	W.	Vac.	Mag.	Gr&Da.	6	Cone.	Sep.	4	F.	S-B.	4 1	Sp.	½-El.	T.	R.	W&S.	Wr.
Vinot-Deguingand	125	820x120	4	3 .1x4 .7	3	4	Int.	I.	4	Alum.	C.	Ch.	P.	PS.	Zenith.	W.	Vac.	Mag.	Gr&Da.	6	Cone.	Sep.	4	F.	S-B.	4 0	Sp.	½-El.	T.	R.	W&S.	Wr.
Voisin	112	765x105	4	2 .4x4 .3	2	3	Det.	S.	4	Alum.	C.	Ec.	T.	Pres.	Zenith.	W.	Gra.	Mag.	Pa-Rh.	12	Cone.	U-E.	3	M.	S-B.	5 .3	TT.	½-El.	F.	R.	S&N.	Dk.
Voisin	129	895x135	4	3 .7x5 .5	3	3	Det.	S.	4	A or M.	C.	Ch.	P.	Pres.	Solex.	W.	Vac.	Mag.	Blér.	12	Plate.	U-E.	4	M.	S-B.	3 .9	TT.	½-El.	F.	R.	S&N.	
Zebre	107	710x 90	4	2 .2x3 .9	2	3	Int.	L.	4	Iron.	C.	Gr.	T.	Pres.	Zenith.	W.	Gra.	Mag.	Ducel	6	Plate.	U-E.	4	F.	S-B.	5 0	Sp-RR.	Cant.	T.	R.	W&S.	Wr.
Zedel	115	765x105	4	2 .9x4 .7	3	3	Det.	L.	4	Alum.	C.	Gr.	T.	Pres.	Zenith.	W.	Vac.	Mag.	West.	6	Plate.	U-E.	4	M.	S-B.	4 1	Sp.	½-El.	T-F*.	R.	W&S.	Wd.
Zedel	131	880x120	4	3 .3x5 .5	3	3	Det.	I.	4	Alum.	C.	Gr.	P.	Pres.	Zenith.	W.	Vac.	Mag.	Ducel	12	Plate.	U-E.	4	M.	S-B.	4 6	Sp.	½-El.	T-F*.	R.	W&S.	
Zevaco	92	650x 65	2	2 .1x3 .9	2	3	Int.	F.	1	Iron.	C.	Gr.	A.	Spl.	Zenith.		Gra.	Mag.	None		Plate.	U-E.	2	F.	Bev.	4 4	Sp.	¼-El.	R.	R.	Pln.	Wr.

BELGIAN																																
d'Aoust	106	765x105	4	2.5x5.5	3	3	Int	L	4	Iron	C	Gr	T	PS	Zenith	W	Vac	Mag	Bosch	12	Disk	Sep	4	M	Bev		Sp	½-El	R	R	W&W	Wr
d'Aoust	106	765x105	4	2.6x5.5	3	3	Int	L	4	Iron	C	Gr	T	PS	Zenith	W	Vac	Mag	Bosch	12	Disk	Sep	4	M	Bev		Sp	½-El	R	R	W&W	Wr
Dunamis	149	895x150	8	2.7x4.3	5	4	Det	L	8	Alum	C	Gr	P	Pres	Solex	W	Vac	Mag	Pa-Rh	12	Disk	U-E	3	M	S-B	5.0	Sp	Cant	F-R	R	W&S	
Excelsior	140	895x135	6	3.3x5.5	3	4	Int	L	3	Alum	C	Gr	T	Pres	Sthenos	W	Vac	Mag	West	6	Cone	U-A	3	M	S-B	3.7	Fk-TT	Cant	F	F	W&S	
Excelsior	140	895x135	6	3.5x5.5	7	4	Det	I	6	Alum	H	Gr	P	Pres	Sthenos	W	Vac	Mag	Scint	12	Cone	U-A	3	M	S-B	3.3	Fk-TT	Cant	F-R	F-R	W&S	
F.N.	116	820x120	4	2.9x4.7	3	3	Int	L	4	Iron	C	Gr	T	Pres	Solex		Vac	Mag	Scint	12	Cone	U-E	4	M	S-B	4.0	Sp	½-El	R	R	W&S	Wd
F.N.	136	895x135	4	3.5x5.9	3	3	Int	L	4	Iron	C	Gr	P	Pres	Zenith		Prs	Mag	C.A.V.	12	Disk	U-E	4	M	S-B	4.3	Sp	½-El	R	R	W&S	Wd
Imperia-Abadal	119	820x120	4	3.5x5.8	3	4	Int	L	4	Alum	C	Gr	P	Pres	Feroldi		Vac	Mag		12	Disk	U-E	4	M	Bev		Sp	½El	T	R	W&S	Wr
Imperia-Abadal	131	820x120	4	3.5x5.8	3	4	Int	T	4	Alum	C	Gr	P	Pres	Feroldi		Vac	Mag		12	Disk	U-E	4	M	Bev		Sp	½El	T	R	W&S	Wr
Imperia-Abadal	131	820x120	4	3.5x7.6	3	4	Int	T	4	Alum	C	Gr	P	Pres	Feroldi		Vac	Mag		12	Disk	U-E	4	M	Bev		Sp	½El	T	R	W&S	Wr
Metallurgique	121	765x105	4	2.7x5.0	3	4	Det	I	4	Alum	H	Gr	P	Pres	Zenith	W	Vac	Mag	Bosch	12	Plate	U-E	4	M	S-B	4.2	TT	¼-El	F-R	R	W&W	Wr
Metallurgique	137	880x120	4	3.5x5.5	3	4	Int	L	4	Iron	C	Ch	P	Pres	Zenith	E	Vac	Mag	West	6	Cone	Sep	4	M	S-B	4.5	RR-TT	¼-El	T	R	W&W	Wr
Metallurgique	148	895x150	4	3.9x6.3	5	4	Int	L	4	Alum	C	Ch	P	Pres	Zenith	W	Vac	Mag	Bosch	12	Plate	U-E	4	M	S-B	3.7	TT	¼-El	F-R	R	W&W	
Miesse	122	765x105	4	2.7x5.1	3	4	Det	I	4	Alum	H	Gr	P	Pres	Sthenos	W	Vac	Mag	Scint	12	Disk	U-E	3	M	S-B	5.0	Sp	½-El	F-R	R	W&N	
Miesse	130	880x120	6	2.7x5.1	3	4	Det	I	4	Alum	H	Gr	P	Pres	Sthenos	W	Vac	Mag	Scint	12	Disk	U-E	3	M	S-B	5.0	Sp	½-El	F-R	R	W&N	
Miesse	145	895x135	8	2.7x5.1	3	4	Det	I	4	Alum	H	Gr	P	Pres	Sthenos	W	Vac	Mag	Scint	12	Disk	U-E	3	M	S-B	5.0	Sp	½-El	F-R	R	W&N	
Miesse	118	710x 90	6	2.3x3.5	3	4	Det	I	6	Alum	H	Gr	P	Pres	Sthenos	W	Vac	Mag	Scint	12	Disk	U-E	3	M	S-B	5.0	Sp	½-El	R-F	R	W&S	
Minerva	119	820x120	4	2.9x4.3	3	4	Det	S	4	Alum	C	Ch	P	PS	Sthenos	W	Vac	Mag	Scint	12	Plate	U-E	4	F	S-B	4.9	Sp-TT	Cant	R	R	W&S	Wr
Minerva	140	895x135	6	2.9x4.3	7	4	Det	S	6	Alum	C	Ch	P	PS	Sthenos	W	Gra	Mag	Scint	12	Plate	Sep	4	F	S-B	4.7	Sp-TT	Cant	F-T	R	W&S	Wr
Minerva	143	895x135	6	3.5x5.5	7	4	Det	S	6	Alum	C	Ch	P	PS	Sthenos	W	Vac	Mag	Scint	12	Disk	Sep	4	F	S-B	3.6	Sp-TT	Cant	F-T	R	W&S	Wr
Nagant	130	765x105	4	2.8x4.7	3	3	Det	I	4	Iron	C	Gr	T	PS	Solex		Gra	Mag	C.A.V.	6	Disk	U-E	4	M	S-B	5.1	TT	Cant	F-R	F-R	W&S	Wd
Nagant	131	880x120	4	3.1x5.9	3	4	Det	F	4	Iron	C	Ch	P	PS	Zenith		Vac	Mag	S.E.V	12	Disk	Sep	4	M	-B	1.4	Fk	½-El	T	R	W&S	Wd
P. M	114	760x 90	4	2.7x4.7	3	3	Int	L	4	Alum	C	Ch	T	Pres	Sthenos	W	Gra	Mag	C.A.V	12	Plate	U-E	3	F	S-B	4.8	Fk	¼El	R	R	W&S	Dk
S. A. V. A.	122	820x120	4	2.7x5.1	3	4	Det	I	4	Alum	C	Ch	T	PS	Zenith	W	Vac	Mag	Scint	12	Plate	U-E	4	M	S-B	4.9	Sp	½El	F-R	R	W&S	Wr
S. A. V. A.	170	895x135	4	3.3x5.9	3	4	Int	F	4	Alum	C	Gr	P	PS	Zenith	A	Vac	Mag	Bosch	12	Plate	Sep	4	M	S-B	4.1	Sp	½El	T	R	W&S	Wr
Somea	120	765x 90	4	2.7x5.1	3	4	Det	I	4	Alum	H	Gr	P	Pres	Zenith	W	Gra	Mag	Scint	12	Plate	U-E	4	M	S-B	4.9	TT	½El	R	R	W&S	Dk
ITALIAN																																
Alfa-Romeo	130	820x120	6	2.9x4.3	3	3	Det	I	6	Alum	C	Ch	T	Pres	Zenith	W	Prs	Mag	Bosch	12	Plate	U-E	4	M	H-B		Sp	½-El	T	R	W&S	
Alfa-Romeo	134	895x135	6	3.5x5.5	3	4	Det	L	3	Alum	C	Ch	P	Pres	Zenith	W	Vac	Mag		12	Plate	Sep	4	M	H-B		RR	Cant	T	R	W&S	
Ansaldo	109	765x105	4	2.7x4.7	3	3	Det	I	4	Alum	H	Gr	P	Pres	Own	W	Gra	Mag	Marel	12	Plate	U-E	3	M	Bev	4.1	Sp	½-El	R-F*	T	W&W	
Ansaldo	116	765x105	6	2.5x3.9	4	3	Det	I	6	Alum	H	Gr	P	Pres	Own	W	Gra	Bat	Marel	12	Plate	U-E	3	M	Bev	4.6	Sp	½-El	R-F*	T	W&W	
Bianchi	108	765x105	4	2.7x4.3	3	4	Int	L	4	Iron	C	Ch	T	Pres	Zenith	W	Vac	Mag	West	6	Plate	Sep	3		S-B	4.7	Fk	½-El	R	R	W&S	Wd
Bianchi	112	765x105	4	2.8x5.1	3	4	Det	I	4	Alum	C	Ch	T	Pres	Zenith	W	Vac	Mag	C.A.V.	12	Plate	Sep	4		S-B	4.4	Fk	½-El	R	R	W&S	Wd
Chiribiri	102	710x 90	4	2.5x4.7	2	3	Int	L	4	Iron	C	Gr	T	PS	Zenith	W	Gra	Mag	Filis	6	Plate	U-A	4	M	S-B	4.5	Fk	½-El	R	R	W&S	Dk
Chiribiri	102	710x 90	4	2.5x4.4	5	3	Int	I	4	Alum	H	Ch	P	Pres	Zenith		Gra	Mag	Bosch	12	Plate	U-E	4	F	S-B	4.0	Fk	½-El	F	R	W&W	Wr
Diatto	118	820x120	4	3.3x4.7	3	4	Int	L	4	Iron	C	Gr	P	Pres	Zenith	W	Vac	Mag			Disk	Sep	4	M	Bev		TT	½-El	T	R	W&S	Wr
Diatto	120	810x 90	4	3.0x3.9	3	3	Det	I	4	Iron	H	Gr	P	Pres	Zenith	W	Vac	Mag			Disk	Sep	4	M	Bev		TT	½-El	T	R	W&S	Wr
Fiat	104	710x 90	4	2.5x4.3	3	3	Det	L	4	Iron	C	Gr	P	Pres	Own	W	Gra	Mag	Own	12	Disk	U-E	4	M	S-B	5.1	TT	½-El	R	R	W&S	
Fiat	119	820x120	4	2.9x5.1	3	4	Det	L	4	Iron	C	Gr	P	Pres	Own	W	Prs	Mag	Own	12	Disk	U-E	4	M	S-B	4.8	TT	½-El	R	R	W&S	
Fiat	133	835x135	6	2.9x5.1	4	4	Det	L	4	Iron	C	Gr	P	Pres	Own	W	Prs	Mag	Own	12	Disk	U-E	4	M	S-B	4.8	TT	½-El	R	R	W&S	
Fiat	142	835x135	6	3.3x5.9	4	4	Det	I	6	Alum	C	Ch	P	Pres	Own	W	Prs	Mag	Own	12	Disk	U-E	4	M	S-B	4.6	TT	Cant	F	F	W&S	
Fiat	152	895x135	12	3.3x4.3	4	4	Det	I	6	Alum	C	Gr	P	Pres	Own	W	Prs	Bat	Own	12	Disk	U-E	3	M	S-B	4.5	TT	Cant	F	R	W&S	
Isotta-Fraschini	145	895x135	8	3.3x5.1	9	4	Det	I	8	Iron	C	Gr	P	Pres	Zenith	W	Vac	Mag	Bosch	12	Disk	U-E	3	M	S-B	4.1	Sp	½-El	F	F	W&S	Wr
Itala	112	815x105	4	2.8x4.7	3	4	Int	L	4	Iron	C	Gr	P	Pres			Vac	Mag	West	6	Disk	Sep	4	F	Bev		Sp	½-El	R	R	W&S	
Itala	125	820x120	4	3.3x5.1	3	4	Int	L	4	Alum	C	Gr	P	Pres	Zenith	W	Vac	Mag	West	6	Disk	Sep	4	F	S-B	4.7	Fk	½-El	T	R	W&S	
Lancia	122	765x105	4	2.9x4.7	3	4	Det	I	4	Alum	H	Gr	P	Pres	Zenith	W	Gra	Bat	Bosch	12	Disk	Sep	3	M	S-B	4.2	Sp	½-El	F	R	W&S	Dk
Lancia	133	895x135	8	2.9x5.1	5	4	Det	I	4	Alum	H	Gr	P	Pres	Zenith	W	Vac	Mag	Bosch	8	Disk	U-E	4	M	Bev	3.9	Sp	½-El	T	R	W&S	Wr
Nazzaro	138		4	3.5x5.5	5	4	Det	I	4	Alum	H	Gr	P	Pres	Zenith	W	Prs	Mag	Bosch	12	Disk	Sep	4	M	Bev	4.0	TT	½-El	R	R	W&S	
Nazzaro	126		4	3.6x5.5	5	4	Det	I	4	Alum	H	Gr	P	Pres	Zenith	W	Prs	Mag	Bosch	12	Disk	Sep	4	M	Bev	3.7	TT	½-El	F-R	R	W&S	Wr
O.M.	110	710x 90	4	2.7x3.9	3	3	Det	L	4	Alum	C	Gr	T	Pres	Solex	W	Vac	Bat	Bosch	12	Plate	U-E	4	M	Bev	5.2	TT	½-El	R	R	W&S	
O.M.	122	765x105	4	2.5x3.9	4	3	Det	L	4	Alum	C	Gr	T	Pres	Solex	W	Vac	Bat	Bosch	12	Plate	U-E	4	M	Bev	5.2	TT	½-El	F	R	W&S	
Spa	126	820x120	4	3.3x4.7	3	3	Det	L	4	Iron	C	Gr	P	Pres	Zenith	W	Vac	Mag	West	12	Disk	U-E	4	M	S-B	4.1	TT	½-El	T	R	W&W	
Spa	133	820x120	4	3.9x5.5	3	3	Det	L	4	Alum	C	Gr	P	Pres	Zenith	W	Vac	Mag	West	12	Disk	U-E	4	M	S-B	4.1	TT	½-El	F-T	R	W&W	
Spa	147	895x135	6	3.3x5.1	3	3	Det	I	6	Alum	H	Gr	P	Pres	Zenith	W	Vac	M-B	West	12	Disk	U-E	4	M	S-B	3.6	TT	Cant	F-T	R	W&W	
SPANISH																																
Elizalde	130	820x120	4	3.3x5.9	3	3	Det	I	4	St'l	C	Gr	P	Pres	Zenith	W	Vac	Mag	Scint	12	Cone	Sep	4	M	Bev	4.5	Fk-TT	Cant	F-R	R	W&S	Wr
Elizalde	138	835x135	8	2.7x4.3	5	3	Det	I	8	Alum	C	Gr	P	Pres	Zenith	W	Vac	Mag	Bosch	12	Cone	Sep	4	M	Bev	5.0	TT	Cant	F-R	R	W&S	Dk
Elizalde	169	955x155	8	3.5x6.3	5	3	Det	I	8	Alum	C	Gr	P	Pres	Zenith	W	Vac	Mag	West	12	Cone	U-E	4	M	Bev		TT	Cant	F-R	R	W&S	Dk

For abbreviations see page 401.

Continental Passenger Car Chassis Specifications (Continued)

MAKE AND MODEL	Wheelbase (ins.)	Track (ins.)	Tire Size (ins. and m.m.)	ENGINE: Number of Cylinders Bore and Stroke (ins.)	Piston Displacement (cu. ins.)	RATING: R. P. M.	RATING: Brake H. P.	CYLINDERS: Head	CYLINDERS: Cylinder Type Valve Arrangement	CYLINDERS: No. Cast in One Piece	CAMSHAFT: Piston Material	CAMSHAFT: Location	CAMSHAFT: Drive	Cooling	Oiling System	FULL SYSTEM: Carbureter Make	FULL SYSTEM: Fuel Feed	Voltage	TRANSMISSION: Clutch Type	Gearset Location	No. of Forward Speeds	Universal Joints Number and Type	REAR AXLE: Type	REAR AXLE: Final Drive	REAR AXLE: Propulsion Taken By	REAR AXLE: Torque Taken By	RUNNING GEAR: Rear Spring Type	BRAKES: Hand Type and Location	BRAKES: Foot Type and Location	Steering Gear Type	Wheels Type
GERMAN																															
Adler 6-22	104	51	760x100	4-2 5/16x4 1/16	95	2200	22	Int...	L.....	4	Alum..	C.....	Ch....	P.....	Pres..	Pallas.....	Prs....	12	Cone..	Sep...	5	1M...	3/4Fl....	Bv.....	TT...	TT..	1/2El...	IR....	IT....	W....	Wr...
Adler 9-24	122	53	820x120	4-3 1/16x4 5/16	141	2200	24	Int...	L.....	4	Alum..	C.....	Ch....	P.....	Pres..	Pallas.....	Vac...	12	Cone..	UE...	4	1M...	3/4Fl....	Bv.....	TT...	TT..	1/2El...	IR....	IT....	S....	Wr...
Adler 12-40	134	55	880x125	4-3 7/16x5 1/16	191	2000	50	Int...	L.....	2	Alum..	C.....	Sp....	P.....	Pres..	Pallas.....	Vac...	12	Cone..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	S....	Wr...
Adler 18-60	134	55	935x125	4-3 5/8x5 5/8	287	2000	100	Int...	L.....	2	Alum..	C.....	Sp....	P.....	Pres..	Pallas.....	Vac...	12	Cone..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	S....	Wr...
Aga ..... A	101	45	760x100	4-2 1/2x4 1/16	86	2400	22	Int...	L.....	4	Iron..	C.....	Hl....	T.....	Spl...	Zenith.....	Vac...	12	Cone..	Sep...	3	2M...	3/4Fl....	SB.....	Sp.....	Sp...	Cant...	IR....	ET....	W....	.....
Alfi 4-14	99	43	710x 90	4-2 3/8x3 5/8	64	2000	14	Int...	L.....	4	G.S...	C.....	Sp....	T.....	Pres..	Pallas.....	Gra...	12	Cone..	Sep...	3	1M...	1/2Fl....	Bv.....	Sp.....	Sp...	Cant...	IR....	IR....	W....	Dk...
Apollo 4-14	81	43	26x 3	4-2 3/8x3 5/8	64	2200	14	Int...	I.....	4	Alum..	H.....	Sp....	T.....	Vac...	Opt	Gra...	....	Cone..	Sep...	3	1M...	3/4Fl....	Bv.....	TT...	TT..	Cant...	IR....	IT....	R....	.....
Apollo 10-40	126	51	820x120	4-3 1/4x4 7/8	156	2000	40	Int...	L.....	4	Alum..	C.....	Sp....	T.....	Pres..	Opt.....	Prs....	12	Cone..	Sep...	4	1M...	3/4Fl....	SB.....	RR....	TT..	Cant...	IR....	IT....	W....	.....
Arimoto F-26	83	43	26x 3	2-3 3/8x4 5/8	67	3000	12	Det...	I.....	..	Iron..	C.....	Sp....	A.....	Pres..	Groetzin..	Gra....	....	Cone..	UE...	3	1M...	1/2Fl....	Bv.....	TT...	TT..	1/2El...	IR....	ET....	W....	Wr...
Audi 8-28	116	49	820x120	4-2 9/16x4 1/16	128	2000	28	Int...	L.....	2	Alum..	C.....	Hl....	T.....	Pres..	Zenith.....	Vac...	12	Cone..	UE...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	S....	Wr...
Audi 14-50	139	57	895x135	4-3 9/16x5 1/2	217	2000	50	Det...	I.....	4	Alum..	H.....	Hl....	T.....	Pres..	Zenith.....	Prs....	12	Disk..	UE...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	S....	Wr...
Audi 22-55	136	55	895x135	4-4 5/16x5 7/8	348	1700	55	Int...	F.....	2	Alum..	C.....	Hl....	T.....	Pres..	Zenith.....	Vac...	12	Cone..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	S....	Wd...
Beckmann 8-24	122	53	815x105	4-3x4 1/16	122	.....	24	Int...	L.....	4	C.S....	C.....	Sp....	T.....	Pres..	Zenith.....	Vac...	12	Cone..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	S....	Wd...
Beckmann 10-30	132	55	820x120	4-3 1/4x4 3/4	155	.....	30	Int...	L.....	4	C.S....	C.....	Sp....	T.....	Pres..	Zenith.....	Vac...	12	Cone..	Sep...	4	2M...	1/2Fl....	Bv.....	Sp.....	Sp...	1/2El...	IR....	ET....	W....	Wd...
Benz 10-30	123	53	820x120	4-3 1/8x5 1/8	159	2250	34	Int...	L.....	4	Iron..	C.....	Ch....	T.....	Pres..	Zenith.....	Vac...	12	Cone..	Sep...	4	1M...	3/4Fl....	Bv.....	RR....	TT..	1/2El...	IR....	IT....	S....	Wd...
Benz 16-50	137	56	880x135	6-3 1/8x5 1/8	254	1950	50	Int...	L.....	3	Iron..	C.....	Ch....	P.....	Pres..	Zenith.....	Vac...	12	Cone..	Sep...	4	1M...	3/4Fl....	Bv.....	RR....	TT..	1/2El...	IR....	IT....	S....	Wd...
Benz 27-70	144	57	935x150	6-3 9/16x5 1/8	432	1550	72	Int...	L.....	2	Iron..	C.....	Ch....	P.....	Pres..	Zenith.....	Vac...	12	Cone..	Sep...	4	1M...	3/4Fl....	Bv.....	RR....	TT..	1/2El...	IR....	ET....	S....	Wd...
Benz Soehme 8-25	119	51	815x105	4-2 9/16x4 3/4	128	2000	30	Int...	L.....	4	Iron..	C.....	Ch....	T.....	Pres..	Zenith.....	Vac...	12	Cone..	Sep...	4	1M...	3/4Fl....	Bv.....	Sp.....	TA...	3/4El...	IR....	ET....	S....	Wd...
Benz Soehme 14-42	127	53	820x120	4-3 9/16x5 1/2	217	1800	45	Int...	L.....	2	Iron..	C.....	Hl....	T.....	Pres..	Zenith ...	Vac...	12	Cone..	Sep...	4	1M...	3/4Fl....	Bv.....	TT...	TT..	1/2El...	IR....	ET....	S....	Wd...
Bergmann 10-30	118	52	.....	4-3 1/2x5 1/2	159	.....	30	Int...	L.....	4	Iron..	C.....	Sp....	T.....	Pres..	Favorit...	Prs....	12	Cone..	Sep...	4	1M...	1/2Fl....	Bv.....	TT...	TT..	1/2El...	IR....	ET....	W....	Wd...
Bob 4-10	88	43	710x 90	4-2 3/8x3 1/8	62	1800	10	Int...	L.....	4	Iron..	C.....	Sp....	T.....	Pres..	Pallas.....	Gra....	....	Cone..	Sep...	3	1M...	3/4Fl....	Bv.....	TA....	TT..	3/4El...	IR....	ET....	W....	Wr...
Brennabor P8	125	53	815x105	4-3 1/8x4 1/8	128	2400	24	Int...	L.....	4	Iron..	C.....	Sp....	T.....	Pres..	Zenith.....	Prs....	12	Cone..	Sep...	4	1M...	3/4Fl....	Bv.....	RR....	TT..	1/2El...	IR....	IT....	W....	Wd...
Brennabor S8	102	50	760x100	4-2 3/4x4	96	2200	20	Det...	I.....	4	Iron..	H.....	Sp....	P.....	Pres..	Pallas.....	Gra....	12	Plate..	UE...	3	1M...	3/4Fl....	Bv.....	TT...	TT..	1/2El...	IR....	ER....	S....	Wd...
Cyclonette ..... Three-wheel	108	49	710x 90	2-3 1/4x4 3/4	70	1800	10	Int...	L	1	Iron..	C.....	Sp....	A.....	Spl...	Zefan.....	Prs....	.....	Cone..	UE...	2	.....	.....	.....	.....	.....	1/2El...	ER....	IR....	.....	Wr...
Dines 8-35	122	49	815x105	4-3 1/16x4 1/4	126	2500	35	Det...	I.....	4	Alum..	H.....	Hl....	P.....	Pres..	Pallas.....	Vac...	.....	Cone..	UE...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	S....	Wr...
Dixi 6-18	112	45	760x100	4-2 3/4x4	96	2200	18	Int...	L.....	4	Iron..	C.....	Ch....	T.....	Pres..	Opt.....	Gra....	.....	Cone..	Sep...	4	1M...	3/4Fl....	Bv.....	Sp.....	TT..	Cant...	IR....	IT....	S....	Wr...
Dixi 13-39	126	53	820x120	4-3 3/4x4 3/4	208	1500	39	Int...	L.....	2	Iron..	C.....	Sp....	P.....	Pres..	Opt.....	Prs....	.....	Cone..	Sep...	4	1M...	3/4Fl....	Bv.....	Sp.....	TT..	3/4El...	IR....	ET....	S....	Wd...
Dixi 20-55	144	57	935x135	4-3 5/8x6 1/2	316	1800	55	Int...	L.....	4	Iron..	C.....	Ch....	P.....	Pres..	Opt.....	Prs....	.....	Cone..	Sep...	4	1M...	3/4Fl....	Bv.....	TT...	TT..	1/2El...	IR....	IT....	W....	Wd...
Duerkopp P8	112	49	815x105	4-3 1/8x3 1/8	128	2200	24	Int...	L.....	4	Alum..	C.....	Sp....	T.....	Pres..	Opt.....	Vac...	.....	Cone..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	W....	Wd...
Duerkopp P10	130	53	820x125	4-3 3/8x3 3/8	175	2000	32	Int...	L.....	4	Alum..	C.....	Sp....	T.....	Pres..	Opt.....	Vac...	.....	Cone..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	W....	Wd...
Duerkopp P16	137	55	880x125	4-4 x5 1/8	254	2000	45	Int...	L.....	4	Alum..	C.....	Sp....	P.....	Pres..	Opt.....	Vac...	.....	Cone..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	W....	Wd...
Duerkopp P84	146	55	935x135	6-4 x5 1/8	381	2000	70	Int...	L.....	3	Alum..	C.....	Sp....	P.....	Pres..	Opt.....	Vac...	.....	Cone..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	W....	Wd...
Dux ..... S	138	55	895x135	4-3 9/16x5 1/2	268	2000	50	Int...	L.....	4	Alum..	C.....	Ch....	P	Pres..	Zenith.....	Prs....	12	Cone..	Sep...	4	1M...	3/4Fl....	SB.....	TA....	TT..	1/2El...	IR....	ET....	S....	Wr...
Elitewagen ..... B	126	55	820x120	4-3 3/8x5 1/2	194	1500	35	Int...	L.....	4	Iron..	C.....	Hl....	P.....	Pres..	Zenith.....	Vac ..	12	Cone..	UE...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	S....	Wr...
Elitewerke E12	128	55	820x120	4-3 3/8x5 1/2	194	2200	40	Int...	L.....	4	Alum..	C.....	Ch....	P.....	Pres..	Zenith.....	Vac...	12	Disk..	Sep...	4	1M...	3/4Fl....	SB.....	RR....	TT..	1/2El...	IR....	ET....	S....	Opt...
Elitewerke E15	128	55	880x125	4-3 9/16x5 5/8	233	2000	50	Int...	L.....	4	Alum..	C.....	Ch....	P.....	Pres..	Zenith.....	Vac...	12	Disk..	Sep...	4	1M...	3/4Fl....	SB.....	RR....	TT..	1/2El...	IR....	ET....	S....	Opt...
Elitewerke S18	138	55	935x135	6-3 3/8x5 1/2	290	2200	55	Int...	L.....	6	Alum..	C.....	Ch....	P.....	Pres..	Zenith.....	Vac...	12	Disk..	Sep...	4	1M...	3/4Fl....	SB.....	RR....	TT..	1/2El...	IR....	ET....	S....	Opt...
Fadag 10-50	140	53	820x120	6-2 3/4x4 5/8	154	3000	50	Det...	I.....	6	Alum..	H.....	Hl ..	T.....	Pres..	Zenith.....	Prs....	12	Disk..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	Cant...	IF....	IF....	S....	Wr...
Fadag 8-30	122	53	820x120	4-3 3/8x3 5/8	124	2600	30	Int...	L.....	4	Alum..	C.....	Ch....	T.....	Pres..	Own.....	Vac...	12	Disk..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	Cant...	IF....	WF....	S....	Wr...
Fafnir 9-28	114	52	820x120	4-3 x4 5/8	138	2500	28	Int...	L.....	4	Alum..	C.....	Ch....	T.....	Pres..	Pallas.....	Vac...	12	Cone..	UE...	4	1M...	3/4Fl....	SB.....	TT...	TT..	Cant...	IR....	IT....	W....	Opt...
Falcon ..... A	110	45	4560x100	4-2 3/8x4 3/8	89	2500	20	Int...	L.....	4	Alum..	C.....	Hl....	T.....	PS....	Solex.....	Gra....	12	Disk..	UE...	4	.....	1/2Fl....	Bv.....	RR....	Sp....	Cant...	IR....	IR....	W....	.....
Faun	110	47	760x 90	4-2 3/8x4 5/8	89	1800	24	Det...	I.....	4	Iron..	H.....	Hl....	T.....	Pres..	Solex.....	Gra....	6	Plate..	UE...	3	1M...	3/4Fl....	Bv.....	TT...	TT..	Cant...	IR....	IR....	W....	Dk...
Fulmina 8-26	118	47	815x105	4-2 3/8x4 1/4	126	2200	27	Int...	L.....	4	Alum..	C.....	Ch....	T.....	Pres..	Pallas.....	Vac...	12	Disk..	Sep...	4	1M...	3/4Fl....	Bv.....	RR....	TT..	Cant...	IR....	IT....	S....	Opt...
Fulmina 10-30	126	49	820x120	4-3 1/8x5 1/8	159	2000	32	Int...	L.....	4	Alum..	C.....	Ch....	T.....	Pres..	Pallas.....	Vac...	12	Disk..	Sep...	4	1M...	3/4Fl....	Bv.....	RR....	TT..	Cant...	IR....	IT....	S....	Opt...
Fulmina 16-50	136	53	880x135	4-3 9/16x5 1/8	249	1800	55	Int...	L.....	4	Alum..	C.....	Ch....	T.....	Pres..	Pallas.....	Vac...	12	Cone..	Sep...	4	1M...	3/4Fl....	Bv.....	RR....	TT..	3/4El...	IR....	ET....	S....	Opt...
Goerke G6-22	86 1/2	44	650x 65	2-3 3/8x3 7/8	61	2500	12	Int...	F.....	....	Iron..	C.....	Sp....	A.....	Spl...	Pallas.....	Gra....	....	Cone..	.....	2	.....	.....	.....	.....	.....	1/2El...	IR....	IT....	S....	Wr...
Grade 2A 7-10	114	39	710x 90	2-2 3/4x4 1/8	50	1400	12	Int...	V.....	1	Alum..	.....	Hl....	A.....	Spl...	Own.....	Gra....	.....	.....	Sep...	4	.....	.....	Chn....	Sp.....	Sp...	1/4El...	ET....	IR....	C....	Dk...
Hansa ..... PV	117	50	765x105	4-3 1/8x	128	2700	30	Int...	L.....	4	Alum..	C.....	Ch....	T.....	SP....	Pallas.....	Vac...	12	Disk..	Sep...	4	1M...	3/4Fl....	Wm.....	TT...	TT..	Trans..	ET....	IR....	W....	.....
Hansa-Lloyd ..... H	150	55	935x150	4-4 1/16x5 1/2	276	2200	60	Int...	L.....	4	Alum..	H.....	Ch....	T.....	Pres..	Pallas.....	Vac...	12	Disk..	Sep...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	ET....	S....	.....
Haim 8-30	118	53	765x105	4-3 9/16x3 3/8	128	2580	36	Int...	L.....	4	Alum..	C.....	Ch....	T.....	Pres..	Pallas.....	Gra....	12	Cone..	Sep...	3	1F...	1/2Fl....	Bv.....	Sp.....	TT..	1/2El...	IR....	IT....	S....	Wd...
Horch 10M20	126	54	820x120	4-3 1/8x5 1/8	159	2000	35	Int...	L.....	4	Alum..	C.....	Hl....	P.....	Pres..	Zenith.....	Vac...	12	Disk..	UE...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	IR....	W....	.....
Horch 10M21	126	54	820x120	4-3 1/8x5 1/8	159	2200	45	Det...	I.....	4	Alum..	H.....	Hl....	P.....	Pres..	Zenith.....	Vac...	12	Disk..	UE...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	IR....	W....	.....
Horch 15M10	144	54	880x135	6-3 1/8x5 1/8	239	2300	65	Det...	I.....	6	Alum..	H.....	Hl....	P.....	Pres..	Zenith.....	Vac...	12	Disk..	UE...	4	1M...	3/4Fl....	SB.....	TT...	TT..	1/2El...	IR....	IR....	W....	.....
Joswin 28-95	153	57	35x135	6-4 1/16x5 1/2	444	1300	95	Int...	I.....	2	Alum..	H.....	Bv....	P.....	Pres..	Pallas.....	Vac...	.....	Disk..	Sep...	4	1M...	1/2Fl....	Bv.....	TT...	TT..	1/2El...	IR....	ET....	S....	Dk...
Klemouts Greiz S5	81	43	710x 90	4-2 1/16x3 1/8	78	2200	15	Int...	L.....	4	Alum..	C.....	Ch....	T.....	Pres..	Solex.....	Gra....	.....	Cone..	Sep...	3	1M...	3/4Fl....	Bv.....	TT...	TT..	1/2El...	IR....	ET....	W....	Wr...
Kocs 4-12	90 1/2	44	760x 80	2-3 3/8x3 3/8	62	1800	12	Int...	H.....	1	Alum..	C.....	Sp....	T.....	Spl...	Opt.....	Gra....	.....	Cone..	.....	2	.....	.....	.....	.....	.....	Volute.	IR....	IR....	W....	Dk...
Koerting 6-24	108	51	765x105	4-2 9/16x3 1/8	66	2600	27	Int...	L.....	4	Alum..	C.....	Ch....	T.....	Pres..	Zefan.....	Gra....	12	Plate..	UE...	3	1F...	3/4Fl....	SB.....	RR....	TT..	Cant...	IR....	IT....	S....	Wr...
Koerting 8-32	118	51	820x120	4-3 3/8x3 3/8	125	2600	36	Int...	L.....	4	Alum..	C.....	Ch....	T.....	Pres..	Zefan.....	Gra....	12	Plate..	UE...	3	1F...	3/4Fl....	SB.....	RR....	TT..	Cant...	IR....	IT....	S....	Wr...
Komet 4-12	105	43	26x 3	2-2 3/4x3 3/8	47	2000	12	Int...	L.....	2	Iron..	C.....	Sp....	A.....	Pres..	Solex.....	Gra....	.....	.....	Sep...	4	.....	1/2Fl....	Chn....	RR....	.....	3/4El...	ER....	ER....	W....	Dk...
Kurrich C7	126	53	880x 90	4-3 1/4x4 1/4	121	1800	35	Det...	I.....	4	Iron..	H.....	Hl....	P.....	Pres..	Pallas.....	Gra....	12	Plate..	Sep...	3	1M...	1/2Fl....	SB.....	TT...	TT..	Cant...	IR....	ET....	W....	Dk...

Komet 4-12	105	43	26x 3	2-2¾x3 15/16	47	2000	12	Int.	L.	2	Iron.	C.	Sp.	A.	Pres.	Solex.	Gra.			Sep.	4			Chn.	RR.		¼El.	ER.	ER.	W.	Dk.
Kumnich C2	126	53	880x 90	4-3⅛x4¼	121	1800	35	Det.	I.	4	Iron.	H.	Hl.	P.	Pres.	Pallas.	Gra.	12	Plate.	Sep.	3	1M.	½Fl.	SB.	TT.	TT.	Cant.	IR.	ET.	W.	Dk.
Ley T6	104	43	760x100	4-2¾x3 15/16	94	2500	20	Int.	L.	4	Alum.	C.	Hl.	T.	Pres.	Zenith.	Vac.	12	Disk.	UE.	4	1M.	¾Fl.	Bv.	TT.	TT.	½El.	IR.	IT.	S.	......
Ley U2	125	51	880x125	4-3 7/16x5⅛	182	2500	32	Int.	L.	4	Alum.	C.	Hl.	T.	Pres.	Zenith.	Vac.	12	Disk.	UE.	4	1M.	¾Fl.	Bv.	TT.	TT.	½El.	IR.	IT.	W.	......
Lindcar K3	95½	43	710x 90	4-2⅜x3 9/16	62	200	12	Det.	L.	4	Iron.	C.	Sp.	T.	Pres.	Meco.	Gra.	....	Cone.	Sep.	3	1M.	¾Fl.	Bv.	TT.	TT.	......	IR.	IT.	W.	Wr.
Magnet Three-wheel	179	49	26x 3	4-2⅜x3⅛	56	2000	8	Int.	F.	1	Iron.	C.	Sp.	A.	Pres.	Zefan.	Prs.			UE.	2						½El.	ER.	ER.	......	......
Maybach 28-70	144	58	895x135	6-3¾x5 5/16	350	2400	70	Int.	L.	6	Iron.	C.	Hl.	P.	Pres.	Own.	Vac.	12	Expan.	UE.	2	1M.	¾Fl.	SB.	TT.	TT.	½El.	IF.	F.	S.	Dk.
Mercedes 6-25	110	45	760x100	4-2 11/16x4¼	96	2000	25	Int.	I.	4	Alum.	H.	Bv.	P.	Pres.	Own.	Prs.	12	Cone.	Sep.	4	1M.	¾Fl.	Bv.	TT.	TT.	Cant.	IR.	ET.	S.	Wr.
Mercedes 10-40	110	51	820x120	4-3⅛x5⅛	159	2000	40	Int.	I.	4	Alum.	H.	Bv.	P.	Pres.	Own.	Prs.	12	Cone.	Sep.	4	1M.	¾Fl.	Bv.	TT.	TT.	Cant.	IR.	ET.	S.	Wr.
Mercedes 28-95	133	53	895x135	6-4⅛x5½	443	1600	95	Int.	I.	3	Alum.	H.	Bv.	P.	Pres.	Own.	Prs.	12	Cone.	Sep.	4	1M.	¾Fl.	Bv.	TT.	TT.	½El.	IR.	ET.	S.	Wd.
Mercedes 16-45	128	53	880x135	4-3 11/16x5⅛	249	1800	45	Det.	S.	2	Alum.	......	Sp.	P.	Pres.	Own.	Prs.	12	Cone.	Sep.	4	1M.	¾Fl.	Bv.	TT.	TT.	½El.	IR.	ET.	S.	Wd.
Mikromobil P1	98¼	43	710x 90	4-2 9/16x4 11/16	96	2000	18	Int.	L.	4	Iron.	C.	Sp.	T.	Pres.	Zenith.	Gra.	12	Cone.	Sep.	3	1M.	¾Fl.	Bv.	Sp.	TT.	½El.	IR.	IR.	W.	Wr.
Minimus ZN5	94½	43	761x 90	4-2⅜x3 9/16	62	2000	12	Int.	L.	4	Iron.	C.	Sp.	T.	Pres.	Favorit.	Gra.	....	Cone.	Sep.	3	1M.	½Fl.	Bv.	RR.	TT.	¼El.	ER.	IT.	W.	Dk.
Moll 6-30	119	55	760x 90	4-2¾x3 15/16	93	2800	30	Det.	I.	4	Alum.	H.	Hl.	T.	Pres.	Zenith.	Gra.	6	Cone.	Sep.	4	1F.	¾Fl.	SB.	Sp.	TA.	¼El.	IR.	IR.	W.	......
Nafa 10-30	126	55	820x135	4-3 5/16x5⅛	160	1200	30	Int.	L.	4	C.S.	C.	Ch.	T.	Pres.	Zenith.	Vac.	12	Disk.	Sep.	4	1M.	¾Fl.	Wm.	TT.	TT.	Cant.	IR.	IT.	W.	Wr.
N.A.G. C4	122	53	820x120	4-3¼x4 11/16	156	2100	30	Int.	L.	4	Alum.	C.	Ch.	T.	Pres.	Zenith.	Vac.	12	Cone.	Sep.	4	1M.	¾Fl.	SB.	RR.	TT.	½El.	IR.	ET.	S.	Opt.
N.S.U. 5-15	96½	45	710x 90	4-2⅝x3 9/16	75	2000	15	Int.	L.	4	Iron.	C.	Sp.	T.	Pres.	Zenith.	Vac.	12	Cone.	Sep.	4	2M.	¾Fl.	Bv.	Sp.	Sp.	½El.	IR.	ET.	S.	Wd.
N.S.U. 8-24	115	49	815x105	4-3 1/16x4 5/16	128	1950	24	Int.	L.	4	Iron.	C.	Sp.	T.	Pres.	Zenith.	Vac.	12	Disk.	Sep.	4	2M.	¾Fl.	Bv.	Sp.	Sp.	Cant.	IR.	ET.	S.	Wd.
N.S.U. 14-40	126	54	880x120	4-3 11/16x5⅛	224	1900	40	Int.	L.	2	Iron.	C.	Sp.	T.	Pres.	Zenith.	Prs.	12	Disk.	Sep.	4	2M.	¾Fl.	Bv.	Sp.	Sp.	Cant.	IR.	ET.	S.	Wd.
N.U.C. 4-15	86½	43	710x 90	4-2⅜x3 9/16	62	2000	15	Int.	F.	4	Alum.	C.	Sp.	T.	Pres.	Groetzin.	Gra.	....	Plate.	UA.	3	1M.	½Fl.	Bv.	TT.	TT.	Cant.	IR.	IR.	W.	Dk.
Omikron 4-13	94½	38	710x 90	4-2⅜x3 9/16	62	2200	15	Int.	L.	4	Alum.	C.	Hl.	T.	Pres.	Zenith.	Gra.	....	Cone.	Sep.	3	1M.	¾Fl.	Bv.	TT.	TT.	Cant.	IR.	IT.	W.	Wr.
Opel 30-75	148	55	935x135	6-4⅛x5 15/16	476	1400	75	Int.	L.	3	Iron.	C.	Hl.	P.	Pres.	Own.	Prs.	12	Cone.	Sep.	4	1M.	¾Fl.	SB.	TT.	TT.	Cant.	ER.	ET.	S.	......
Opel 21-50	143	55	895x135	4-3 15/16x5⅛	344	1400	50	Int.	L.	4	Iron.	C.	Hl.	P.	Pres.	Own.	Prs.	12	Cone.	Sep.	4	1M.	¾Fl.	SB.	TT.	TT.	Cant.	ER.	ET.	S.	......
Opel 14-38	131	53	880x120	4-3 9/16x5 5/16	210	1800	38	Int.	L.	4	Iron.	C.	Hl.	P.	Pres.	Own.	Prs.	12	Cone.	Sep.	4	1M.	¾Fl.	SB.	TT.	TT.	Cant.	ER.	ET.	W.	......
Opel 9-25	124	53	820x120	4-3 1/16x4 15/16	142	1800	25	Int.	L.	4	Iron.	C.	Hl.	P.	Pres.	Own.	Prs.	12	Cone.	Sep.	4	1M.	¾Fl.	SB.	TT.	TT.	Cant.	IR.	IT.	W.	......
Opel 8M21	112	49	765x105	4-2⅞x4 15/16	198	2000	21	Int.	L.	4	Iron.	C.	Hl.	P.	Pres.	Own.	Prs.	12	Cone.	Sep.	4	2M.	¾Fl.	Bv.	Sp.	Sp.	½El.	IR.	IT.	W.	......
Peter & Moritz M22	98¼	39	710x 90	2-3 5/16x4⅝	78	1900	15	Int.	F.	1	Alum.	C.	Hl.	T.	Spl.	Solex.	Gra.	12	Disk.	UE.	2	1F.	½Fl.	Wm.	Sp.	TT.	Cant.	IR.	IR.	W.	Opt.
Phaenomobil Three-wheel	101	53	710x100	4-2 15/16x3 9/16	96	1500	14	Int.	L.	1	Alum.	C.	Sp.	A.	Spl.	Pallas.	Prs.	....	Cone.	UE.	2	......	......			TT.	½El.	IR.	IR.	......	Wr.
Phaenomen 10-30	128	55	820x120	4-3 5/16x5⅛	159	1800	30	Int.	L.	4	Iron.	C.	Ch.	T.	Spl.	Pallas.	Vac.	12	Cone.	Sep.	4	1M.	¾Fl.	Bv.	TT.	TT.	½El.	IR.	IT.	S.	Wd.
Phaenomen 16-45	128	55	880x120	4-3 15/16x5½	252	1800	45	Int.	L.	4	Iron.	C.	Ch.	P.	Spl.	Pallas.	Vac.	12	Cone.	Sep.	4	1M.	¾Fl.	Bv.	TT.	TT.	½El.	IR.	ET.	S.	Wd.
Phaenomen 12-50	130	55	820x125	4-3⅜x5 7/16	192	2400	50	Det.	I.	4	Alum.	H.	Bv.	P.	Pres.	Pallas.	Vac.	12	Plate.	UE.	4	1M.	¾Fl.	SB.	TT.	TT.	½El.	IR.	IR.	S.	Wr.
Presto D	122	56	820x120	4-2 1/16x4⅞	143	2000	36	Int.	L.	4	Alum.	C.	Sp.	T.	Pres.	Zenith.	Prs.	12	Disk.	Sep.	4	1M.	¾Fl.	SB.	RR.	TT.	½El.	IR.	ET.	S.	Wr.
Priamus P.K.3	120	52	820x120	4-3 x5⅛	146	1800	30	Int.	L.	4	Alum.	C.	Ch.	T.	Pres.	Pallas.	Vac.	12	Cone.	Sep.	4	1M.	¾Fl.	Bv.	TA.	TT.	½El.	IR.	ET.	W.	Wd.
Priomus C1	133	55	820x135	6-2¾x4 7/16	159	2800	50	Det.	I.	6	Alum.	H.	Hl.	T.	Spl.	Zenith.	Vac.	12	Plate.	UE.	4	......	¾Fl.	SB.	Sp.	Sp.	¼El.	IR.	IR.	S.	Dk.
Protos C	126	53	820x135	4-3⅛x5⅛	160	2400	30	Int.	L.	4	Iron.	C.	Ch.	T.	Pres.	Zenith.	Prs.	12	Disk.	Sep.	4	1M.	¾Fl.	SB.	Sp.	TT.	½El.	IR.	ET.	W.	......
Rumpler 10-30	132	53	820x120	......	......	......	......	......	......	......	......	......	......	......	......	......	Gra.	....	Disk.	UE.	3	......	......	Bv.	......	......	Cant.	IR.	ET.	S.	Wr.
Schuricht 4-12	104½	43	710x 90	4-2⅛x3 9/16	62	2000	13	Det.	L.	4	Iron.	C.	Hl.	T.	Pres.	Pallas.	Gra.	12	Cone.	Sep.	3	1M.	¾Fl.	Bv.	TT.	TT.	½El.	ER.	ET.	W.	Dk.
Selve SL6	118	51	765x105	4-2 15/16x3 15/16	96	2500	28	Int.	L.	4	Alum.	C.	Ch.	T.	Pres.	Solex.	Gra.	12	Cone.	Sep.	4	1M.	¾Fl.	SB.	Sp.	TT.	Cant.	IR.	IT.	W.	......
Selve SL8	122	51	820x120	4-3 5/16x3 15/16	128	2500	40	Int.	L.	4	Alum.	C.	Ch.	T.	Pres.	Solex.	Gra.	12	Cone.	Sep.	4	1M.	¾Fl.	SB.	Sp.	TT.	Cant.	IR.	IT.	W.	......
Simson BO	104½	49	760x100	4-2¾x4	95	1800	22	Int.	F.	4	Alum.	C.	Ch.	T.	Spl.	Zenith.	Vac.	12	Disk.	Sep.	4	1M.	¾Fl.	SB.	TT.	TT.	½El.	IR.	IT.	S.	Wd.
Simson CO	124½	53	820x120	4-3⅛x5⅛	159	1800	40	Int.	F.	4	Alum.	C.	Ch.	T.	Spl.	Zenith.	Vac.	12	Disk.	Sep.	4	1M.	¾Fl.	SB.	TT.	TT.	½El.	IR.	IT.	S.	Wd.
Simson DO	124½	53	886x135	4-3 9/16x5½	217	1800	55	Int.	F.	4	Alum.	C.	Ch.	P.	Spl.	Zenith.	Vac.	12	Disk.	Sep.	4	1M.	¾Fl.	SB.	TT.	TT.	½El.	IR.	IT.	S.	Wd.
Sphinx C	140¼	45	710x100	4-2⅜x3 15/16	70	1800	16	Det.	I.	4	Alum.	H.	Hl.	T.	Spl.	Solex.	Gra.	....	Cone.	Sep.	4	1M.	½Fl.	Bv.	TT.	TT.	½El.	IR.	ER.	W.	Wd.
Steiger PA	118	53	820x120	4-2 15/16x6 5/16	154	2400	50	Int.	I.	4	Alum.	H.	Hl.	P.	Pres.	Zenith.	Vac.	12	Plate.	UE.	4	1M.	¾Fl.	SB.	Sp.	TT.	Cant.	IR.	ET.	S.	Wr.
Stoewer D3	116	51	815x105	4-2 15/16x4¾	128	2000	25	Int.	L.	4	Iron.	C.	Ch.	P.	Pres.	Pallas.	Vac.	12	Cone.	Sep.	4	1M.	¾Fl.	Bv.	TT.	TT.	½El.	IR.	IT.	S.	Wd.
Stoewer D5	132	53	820x125	6-2 15/16x4 11/16	191	2000	36	Int.	L.	6	Iron.	C.	Ch.	P.	Pres.	Pallas.	Vac.	12	Cone.	Sep.	4	1M.	¾Fl.	Bv.	TT.	TT.	½El.	IR.	IT.	S.	Wd.
Szawe 10-50	137	55	880x120	6-2⅞x5½	159	2400	50	Det.	I.	6	Alum.	H.	Bv.	P.	Pres.	Zenith.	Vac.	12	Plate.	UE.	4	......	¾Fl.	SB.	TT.	TT.	Cant.	IR.	IR.	S.	Dk.
Vis	......	....	26x2½	2-2 11/16x2 11/16	32	3000	65	Int.	L.	1	Alum.	C.	Sp.	A.	Spl.	Opt.	Gra.	....	......	UA.	5	......	Fl.	......	Sp.	TA.	¼El.	IR.	ER.	C.	Dk.
Wanderer 5-15	94½	42	710x 90	4-2 9/16x3 15/16	81	2000	18	Det.	I.	4	Alum.	H.	Ch.	P.	Pres.	Pallas.	Gra.	12	Cone.	UE.	3	1M.	¾Fl.	SB.	TT.	TT.	Cant.	IR.	ET.	S.	Wr.
Wittekind 4-12	110¼	43	710x 90	4-2⅜x2⅜	43	2000	12	Int.	L.	4	Iron.	C.	Hl.	T.	Spl.	Wisco.	Gra.	12	Cone.	Sep.	3	1M.	½Fl.	Bv.	TT.	TT.	¾Fl.	IR.	FR.	W.	Wr.

NOTE—All German cars listed are fitted with magnetos. One make only has magneto and battery.

ABBREVIATIONS:

CYLINDER HEAD:
Det—Detachable
Int—Integral

PISTON MATERIAL:
Alum—Aluminum
A. or M.—Aluminum or Magnesium
St'l—Steel
Magm—Magnesium
C. S.—Cast Steel
Iron—Cast Iron

CAMSHAFT LOCATION:
C—In Crankcase
H—Overhead

VALVE ARRANGEMENT:
L—L-Head
I—In Head
F—In Head and Side
T—T-Head
H—Horizontal Opposed in Head
V—Valveless 2-stroke
S—Sleeve

CAMSHAFT DRIVE:
Gr—Gear
Ch—Chain
Bv—Bevel
Ec—Eccentric
Sp—Spur Gear
Hl—Helical Gear

COOLING:
A—Air
P—Pump
T—Thermo siphon

OILING SYSTEMS:
Pres—Pressure to all crankshaft bearings
Ps—Pressure to main bearings and splash to other parts
Spl—Splash only
Vac—Vacuum

INTAKE MANIFOLD HEATED BY:
E—Exhaust
W—Water

FUEL FEED:
Prs—Pressure
Gra—Gravity
Vac—Vacuum

IGNITION TYPE:
Bat—Battery
Mag—Magneto
M-D—Magneto-Battery
Dbl—Double

GENERATOR MAKE:
Pa.-Rh.—Paris-Rhône
Blér—Blériot
West—Westinghouse
Gr. & Da.—Gray & Davis
No.-Ea.—North East
Marel—Marelli
Ducel—Ducellier
Gaumo—Gaumont
Scint—Scintilla
Victr—Victrix
Berd—Berad
Am. Bos.—American Bosch
Rads—Radios
Longu—Longuem

CLUTCH TYPE:
Frict—Friction
Expan—Expanding

GEARSET LOCATION:
U. E.—Unit with Engine
Sep—Separate Unit
U. A.—Unit with Axle

UNIVERSAL TYPE:
M—Metal
F—Fabric

FINAL DRIVE:
S. B.—Spiral Bevel
HB—Herringbone Gears
Bv—Bevel
Wm—Worm
Ppr—Air Propellor
Chn—Chain
Blt—Belt

PROPULSION AND TORQUE TAKEN BY:
Sp—Spring
T. T.—Torque Tube
R. R.—Radius Rods
Fk—Fork
T. A.—Torque Arm

REAR SPRINGS TYPE:
El—Elliptic
Cant—Cantilever
Plat—Platform
Tran—Transverse

REAR AXLE TYPE:
Fl—Floating

BRAKES:
I—Internal
E—External
R—Rear Wheels
T—Propeller Shaft
F—Front Wheels

F*—Front Wheel Brakes Optional

STEERING GEAR TYPE:
W—Worm
S—Screw
C—Cable
R—Rack
S. & N.—Screw and Nut
W. & S.—Worm and Sector
W. & W.—Worm & Wheel
R. & P.—Rack & Pinion
Pln—Planetary
Spr—Spur Gear
Dir—Direct

WHEELS TYPE:
Wd—Wood
Wr—Wire
Dk—Disk

American Trucks Approach Standard Design in Major Features

Specifications indicate only slight changes over last two years. Worm and internal gear types lose some ground while percentage of models using bevel gears and double reduction is increased. 1 to 1¾-ton and 2 to 3-ton models are the most popular sizes.

A LARGER number of models is listed in the table of truck specifications this year than formerly. Chassis models used exclusively for bus applications are given only in the table of bus specifications, but truck chassis which are sold also for use as bus chassis are listed in both tables. The total number of truck chassis listed is 534, as compared with 494 last year. This increase represents more models among the various manufacturers rather than a larger number of manufacturers. One hundred and fifty makes are listed this year, as compared to 153 in 1922.

Trucks of 1 to 1¾-ton and 2 to 3-ton capacity are the most popular sizes. Of the models listed 160, or 30.5 per cent, are in the 1 to 1¾-ton class and 177 chassis, or 33.8 per cent, are in the 2 to 3-ton class. Nearly 4 per cent of the models listed are ¾-ton trucks, 16 per cent 3½ to 4-ton inclusive, nearly 13 per cent 5 to 6-ton and 3.4 per cent 6-ton.

Indications that the important features of truck design are becoming more and more nearly standardized continue to multiply, as will be noted by reference to the curves giving a graphical presentation of truck design factors. It should be clearly understood that these curves, as well as the following percentage figures, refer to the percentage of models listed in the accompanying tables which employ a given type of construction and have no relation to the percentage of trucks actually produced which employ such construction.

In this connection it should be noted that several of the largest producers who make a majority of their own parts employ a different construction in some parts from that of makers who purchase their components in the parts field.

Of the models listed more than 99 per cent are fitted with four-cylinder engines. The Autocar Co. still lists its two-cylinder models and four companies, none of which is among the large truck producers, list six-cylinder models.

Cylinder Block Castings Unchanged

The tabulation indicates no appreciable change in respect to cylinder casting. Approximately three-quarters of the models listed have their cylinders cast in a single block, while the remainder, with one exception, have cylinders cast in pairs.

There is again this year a slight increase in the percentage of models employing unit power plants and a corresponding decrease in those having a separately mounted gearset. This would make it appear that the smaller number of parts and the advantage in production which usually results from the unit power plant arrangement more than offset the advantages of greater accessibility which are claimed for the separately mounted unit. Fifty-three per cent of the models listed have unit power plants and 44 per cent separately mounted gearsets.

Out of 511 models upon which data concerning the lubrication system employed are available, 237, or 46.4 per cent, report the use of pressure feed to all crankshaft bearings, while 24.1 per cent report the use of pressure feed to all bearings, including wrist pins. Seven per cent use splash only and 23.5 per cent use a combination of splash and pressure.

Multiple Disk Clutch Predominates

Only a slight relative change is to be noted in respect to the type of clutch employed. The dry multiple disk type still predominates by a wide margin but has lost some ground to the single plate type, which is used on 20 per cent of this year's models, as against 18.4 per cent last year. The figures on dry multiple disk clutches are 76 per cent this year, as against 77.8 per cent last year. Cone clutches are now used by less than 2 per cent of truck models and there is approximately the same percentage of multiple disk clutches running in oil.

Four-speed gearsets are used on a trifle over 62 per cent of the models listed—approximately the same condition which existed last year. Of the remainder, 35 per cent have three-speed gearsets, a slight gain for this construction, and the remainder, comprising about 3 per cent of the total, have five or six speeds.

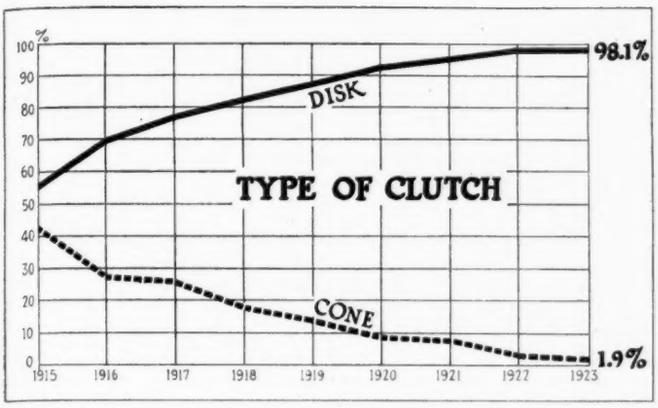
All the trucks listed have water cooled engines, and of these nearly 86 per cent have pumps, a gain of about 2 per cent over last year. It would appear that the slightly greater simplicity of the thermo-syphon system is more than offset by the better cooling and smaller radiator usually required when a pump is employed.

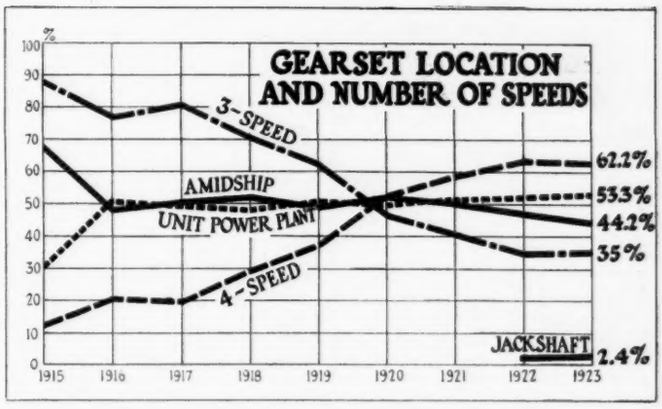
Worm drive, which has been used on more than 60 per cent of all models since 1917, appears to have reached the height of its popularity last year, when it was employed on 72 per cent of the models listed. It is used by 68.3 per cent this year. Internal gear drive also shows a falling off from 16.9 to 13.3 per cent, though still holding the second place in popularity.

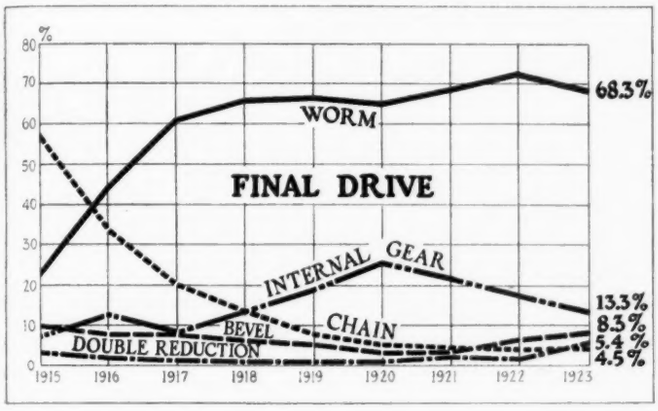
Next in order comes the bevel gear, the use of which has increased from 5.4 per cent to 8.3 per cent during the past year. The double reduction type, used by some of the largest makers, now occupies fourth place with 5.5 per cent, as against 1.8 per cent last year. Chain drive also shows a slight increase from 3.9 to 4.5 per cent of all models.

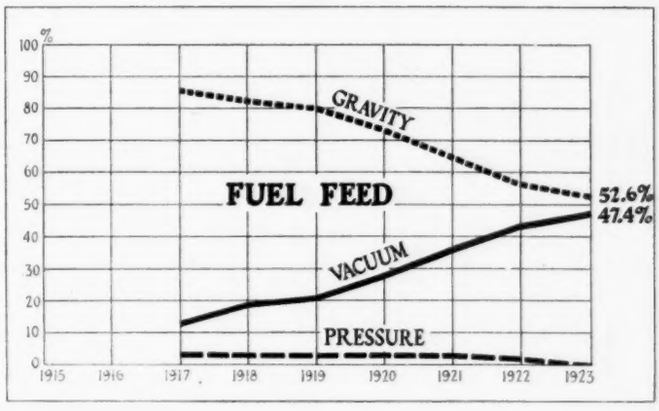
The vacuum type of fuel feed has shown a gain of about 5 per cent and is used now by 47.4 per cent of the models listed. The balance of those giving information under this heading all use gravity fuel feed.

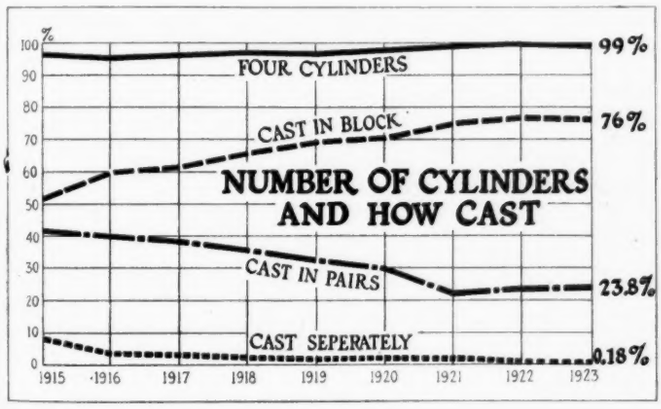
Tendencies in American Truck Chassis Design

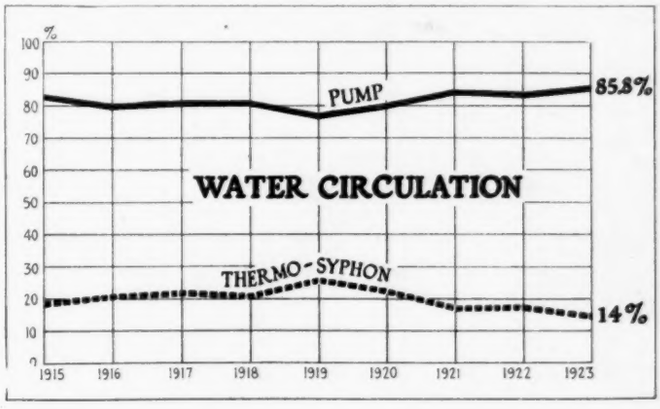












Electrical Equipment and Power Take-Offs

Truck capacity, tons	¾ and under	1, 1¼, 1½, 1¾	2, 2½, 3 to 4½	5 and over
	Per Cent	Per Cent	Per Cent	Per Cent
Generator (standard equipment).....	86	49	24	20
Generator (extra cost)	5	40	61	72
Generator (no provision for)	9	11	15	8
Starters (standard equipment)	81	45	17	12
Starters (extra cost)	5	42	61	60
Starters (no provision for)	14	13	22	28
Power take-off (standard equipment)..	5	4	7	20
Power take-off (extra cost).....	33	76	82	78
Power take-off (no provision for).....	62	20	11	2

American Gasoline

MAKE AND MODEL	GENERAL					ENGINE												ELECTRICAL SYSTEM				
			Standard Tire Size and Type										Fuel System		Governor		Max. Gov. Speeds	Ignition System				
	Tons Capacity	Standard Wheelbase (Ins.)	Front	Rear	Chassis Weight (Lbs.)	Make	No. of Cylinders Bore and Stroke	Point Suspension	Cylinder Head	No. of Cyls. per C'stg.	Valve Arrangement	Water Circulation	Oiling System	Carbureter Make	Fuel Feed	Make	Type	In R. P. M. of Engine	In M. P. H. of Truck	Make	Current Sources	Generator Make	Starter Make	Voltage
Ace	1½	144	S-34x3½	S-34x5	4600	Midw.	4-3⅛x5	...	Det.	4	IH	Pump.	Press.	Zenith.	Vac.	Pierce.	Cent.	1800	20	A-K.	Bat.	West.	West.	6-8
Ace	2-2½	150	S-36x4	S-36x7	4800	Midw.	4-4¼x5½	3	Det.	2	IH	Pump.	Press.	Zenith.	Vac.	Pierce.	Cent.	1700	20	Eisem.	Mag.	West*.	West*.	6-8
Ace	3	150	S-36x4	S-36x8	5600	Midw.	4-4¼x5½	3	Det.	2	IH	Pump.	Press.	Zenith.	Vac.	Pierce.	Cent.	1700	...	Eisem.	Mag.	Opt.*	Opt.*	6-8
Acme	1	129	P-35x5	P-35x5	3050	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Spl.	Ray.	Vac.	Duplex	Cent.	1900	28	Eisem.	Mag.	Bosch.	Bosch.	6-8
Acme	1½	129	S-34x3½	S-34x5	3400	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Spl.	Ray.	Vac.	Duplex	Cent.	1700	23	Eisem.	Mag.	Bosch*.	Bosch*.	6-8
Acme	2	141	S-34x3½	S-34x5	3980	Cont.	4-3½x5	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Zenith.	Vac.	Duplex	Cent.	1600	18	Eisem.	Mag.	Delco*.	Delco*.	6-8
Acme	3	152	S-36x4	S-36x7	4830	Cont.	4-4¼x5½	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Ray.	Vac.	Duplex	Cent.	1500	17	Eisem.	Mag.	Delco*.	Delco*.	6-8
Acme	3	156	S-36x4	S-36x7	5050	Cont.	4-4¼x5½	3	Det.	2	"L" H.	Pump.	Fl.Pr.	Ray.	Vac.	Duplex	Cent.	1600	28	Eisem.	Mag.	Delco*.	Delco*.	6-8
Acme	4½	168	S-36x5	S-40x10	6980	Cont.	4-4½x5½	3	Det.	2	"L" H.	Pump.	Fl.Pr.	Ray.	Vac.	Duplex	Cent.	1350	15	Eisem.	Mag.	Delco*.	Delco*.	6-8
Acme	6½	180	S-36x6	S-40x12d	8970	Cont.	4-4½x6	3	Det.	2	"L" H.	Pump.	Spl.	Ray.	Vac.	Cont.	Cent.	1250	12½	Eisem.	Mag.	Delco*.	Opt.*.	6-8
American	2½	158	S-36x4	S-36x4d	5000	Wisc.	4-4x6	3	Det.	4	"L" H.	Pump.	Press.	Strom.	Grav.	Pierce.	Cent.	1600	18	Apollo.	Mag.	G&D.	.....	6-8
American	5	158	S-36x5	S-36x12d	8000	Wisc.	4-4½x6	3	Det.	4	"L" H.	Pump.	Press.	Strom.	Grav.	Pierce.	Cent.	1600	14	Apollo.	Mag.	G&D.	.....	6-8
Armleder	1½	148	S-*34x3½	S-*34x6	4500	Buda.	4-4x5½	3	Det.	4	"L" H.	Pump.	Press.	Zenith.	Vac.	Pharo.	Hydr.	1400	19	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Armleder HWB	2½	148	S-*36x4	S-*36x4d	4900	Buda.	4-4 x5½	3	Det.	4	"L" H.	Pump.	Press.	Zenith.	Grav.	Pharo.	Hydr.	1350	18	Bosch.	Mag.	West*.	West*.	6-8
Armleder HWC	2½	148	S-*36x4	S-*36x7	4600	Cont.	4-4½x5¼	3	Int.	2	"L" H.	Pump.	Sp.Pr.	Zenith.	Grav.	Pharo.	Hydr.	1350	18	Bosch.	Mag.	Vesta*.	Opt*.	6-8
Armleder KWB	3½	156	S-*36x5	S-*36x5d	6900	Buda.	4-4½x6	3	Det.	4	"L" H.	Pump.	Press.	Zenith.	Grav.	Pharo.	Hydr.	1250	12	Bosch.	Mag.	West*.	Opt.*.	6-8
Armleder KWC	3½	156	S-*36x5	S-*36x5d	6600	Cont.	4-4½x5½	3	Int.	2	"L" H.	Pump.	Sp.Pr.	Zenith.	Grav.	Pharo.	Hydr.	1250	12	Bosch.	Mag.	Vesta*.	Opt.*.	6-8
Atterbury 20R	1½-2	144	S-*34x3½	S-34x5	4500	Cont.	4-3½x5	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Zenith.	Vac.	Duplex	Cent.	1475	20	Eisem.	Mag.	Delco.	Delco.	6-8
Atterbury 22C	2½-3	156	S-*36x4	S-36x4d	5670	Cont.	4-4¼x5½	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Zenith.	Vac.	Pierce.	Cent.	1550	18	Eisem.	Mag.	Delco.	Delco.	6-8
Atterbury 22D	3½-4	174	S-36x5	S-40x5d	7500	Cont.	4-4½x5½	3	Det.	2	"L" H.	Pump.	Fl.Pr.	Zenith.	Vac.	Pierce.	Cent.	1300	15	Eisem.	Mag.	Delco.	Delco.	6-8
Atterbury 8E	5 -6	167½	S-36x5	S-40x6d	9496	Cont.	4-4½x6	3	Det.	2	"L" H.	Pump.	Press.	Zenith.	Vac.	Cont.	Cent.	1260	12	Eisem.	Mag.	Delco.	.....	6-8
Autocar 21UF	1½-2	97	S-34x4	S-34x6	3600	Own.	2-4¼x4½	3	Int.	1	"L" H.	Pump.	Spl.	Strom.	Grav.	.....	.....	.....	...	Bosch.	Mag.	Opt.*.	Opt.*.	6-8
Autocar 27H	2 -3	114	S-34x5	S-36x7	5200	Own.	4-4 x5½	3	Det.	4	"L" H.	Pump.	Spl.	Strom.	Grav.	Pharo.	Cent.	1450	20	Bosch.	Mag.	L-N*.	L-N*.	6-8
Autocar 26Y	4 -6	120	S-34x6	S-36x12	7200	Own.	4-4½x5½	3	Det.	4	"L" H.	Pump.	Spl.	Strom.	Grav.	Pharo.	Cent.	1450	18	Bosch.	Mag.	L-N*.	L-N*.	6-8
Available JH	1½	147	S-36x3½	S-36x5	4000	Herc.	4-4 x5	3	Det.	4	"L" H.	Pump.	Press.	Zenith.	Grav.	.....	.....	.....	18	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Available H	2½	152	S-36x4	S-36x8	5200	Herc.	4-4 x5½	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Strom.	Vac.	Pierce.	Cent.	1400	16	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Available H	3½	178	S-36x5	S-40x5d	6500	Herc.	4-4½x5½	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Strom.	Vac.	Pierce.	Cent.	1400	14	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Available H	5	190	S-36x6	S-40x12d	9500	Herc.	4-5 x6	3	Det.	2	"L" H.	Pump.	Fl.Pr.	Strom.	Vac.	Pierce.	Cent.	1200	12	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Avery	1-1½	129	P-34x5	P-34x5	2800	Own.	6-3 x4	...	Det.	4	IH	Th-S.	Fl.Pr.	Strom.	Grav.	Own.	.....	1400	20	K-W.	Mag.	West*.	West*.	6-8
Beck A30	1½	132	P-34x4½	P-34x4½	2800	H-S.	4-3½x5	3	Det.	4	"L" H.	Th-S.	Sp.Pr.	Strom.	Grav.	.....	.....	.....	...	Bosch.	Mag.	Bosch.	Bosch.	6-8
Beck B-30	1½	132	P-35x5	P-35x5	3000	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Sp.Pr.	Strom.	Vac.	.....	.....	.....	...	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Beck C-40	2½	144	P-38x7	P-40x8	3800	Cont.	4-4¼x5½	4	Det.	4	"L" H.	Pump.	Sp.Pr.	Strom.	Grav.	.....	.....	.....	...	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Bessemer G	1	124	P-35x5	P-35x5	3000	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Sp.Pr.	Strom.	Grav.	.....	.....	.....	...	Bosch.	Mag.	Bijur.	Bijur.	6-8
Bessemer H2	1½	144	S-36x3½	S-36x5	3800	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Sp.Pr.	Strom.	Grav.	.....	.....	.....	...	Bosch.	Mag.	Bijur.	Bijur.	6-8
Bessemer J2	2½	158	S-36x4	S-34x4d	4800	Cont.	4-4¼x5½	3	Int.	4	"L" H.	Pump.	Sp.Pr.	Strom.	Grav.	Pierce.	Cent.	.....	16	Eisem.	Mag.	Eisem.	.....	6-8
Bessemer K2	4	175	S-36x5	S-36x10	7250	Cont.	4-4¼x5½	3	Int.	2	"L" H.	Pump.	Sp-Pr.	Strom.	Grav.	Pierce.	Cent.	.....	13	Eisem.	Mag.	Eisem.	.....	6-8
Bethlehem KN	1	125	P-35x5	P-35x5	2600	Own.	4-3½x5	3	Det.	4	"L" H.	Th-S.	Press.	Zenith.	Grav.	.....	.....	.....	...	Bosch.	Mag.	G&D.	G&D.	6-8
Bethlehem GN	2	137	S-*34x4	C-34x6	4100	Own.	4-4 x5½	3	Det.	4	"L" H.	Th-S.	Press.	Zenith.	Vac.	Pierce.	Cent.	1375	18	Bosch.	Mag.	G&D.	G&D.	6-8
Bethlehem HN	3	143	S-*	S-*	4900	Own.	4-4 x5½	3	Det.	4	"L" H.	Th-S.	Press.	Zenith.	Vac.	Pierce.	Cent.	1215	15	Bosch.	Mag.	G&D.	G&D.	6-8
‡‡Bridgeport A	1½	146	S-34x3½	S-34x6	....	Buda.	4-3½x5½	3	Det.	4	"L" H.	Pump.	Press.	Strom.	Vac.	Pierce.	Cent.	1215	25	Eisem.	Mag.	G&D.	G&D.	6-8
Bridgeport B	2½	156	S-36x4	S-36x4d	....	Buda.	4-4¼x5½	3	Det.	4	"L" H.	Pump.	Press.	Strom.	Vac.	Pierce.	Cent.	1200	15	Eisem.	Mag.	Opt.*.	Opt.*.	6-8
‡‡Bridgeport C	3½	170	S-36x5	S-36x10	....	Buda.	4-4½x6	3	Det.	4	"L" H.	Pump.	Press.	Strom.	Vac.	Pierce.	Cent.	1250	13	Eisem.	Mag.	.....	.....	.....
Brockway E2	1	135	P-33x5	P-33x5	3250	Wisc.	4-4 x5	3	Det.	4	IH	Pump.	Press.	Zenith.	Vac.	.....	.....	.....	...	Remy.	Mag.	L-N.	L-N.	6-8
Brockway S	1½	140¾	S-36x4	S-36x6	4050	Wisc.	4-4 x5	3	Det.	4	IH	Pump.	Press.	Strom.	Vac.	Handy	Suc.	1800	25	Eisem.	Mag.	L-N*.	L-N*.	6-8
Brockway K	2½	153	S-36x4	S-36x8d	5260	Cont.	4-4¼x5½	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Strom.	Vac.	Pharo.	Hydr.	1300	18	Eisem.	Mag.	Dyn.*.	Dyn.*.	6-8
Brockway R	3½	164	S-36x5	S-36x5d	7075	Cont.	4-4½x5½	3	Det.	2	"L" H.	Pump.	Fl.Pr.	Strom.	Vac.	Pharo.	Hydr.	1200	15	Eisem.	Mag.	Dyn.*.	Dyn.*.	6-8
Brockway T	5	174	S-36x6	S-40x7	9215	Cont.	4-4¼x6	3	Det.	2	"L" H.	Pump.	Fl.Pr.	Strom.	Vac.	Pharo.	Hydr.	1100	13	Eisem.	Mag.	Dyn.*.	Dyn.*.	6-8
Buffalo 6	2½	155	S-34x5	S-36x5d	6200	Herc.	4-4 x5½	3	Det.	4	"L" H.	Pump.	Press.	Strom.	Vac.	Pierce.	Cent.	1650	22	Bosch.	Mag.	Bosch.	Bosch.	6-8
Buick SD	¼	109	P-31x4	P-31x4	....	Own.	4-3⅛x4½	3	Det.	4	IH	Pump.	Fl.Pr.	Marvel.	Vac.	.....	.....	.....	...	Delco.	Bat.	Delco.	Delco.	6-8
Case TR	2	144	P-36x6	P-38x7	4000	Own.	4-4½x5½	3	Det.	4	IH	Pump.	Spl.	Bennett	Grav.	Own.	Hydr.	900	20	Eisem.	Mag.	.....	.....	6-8
Chevrolet	½	120	P-30x3½	P-30x3½	1490	Own.	4-3⅛x4	4	Det.	4	IH	Pump.	Sp.Pr.	Zenith.	Grav.	.....	.....	.....	...	Remy.	Bat.	A-L.	A-L.	6-8
Chevrolet G	¾	120	P-31x4	P-34x4½	2020	Own.	4-3⅛x4	4	Det.	4	IH	Pump.	Sp.Pr.	Zenith.	Grav.	.....	.....	.....	...	Remy.	Bat.	A-L.	A-L.	6-8
Chevrolet T	1	125	P-33x4	P-35x5	2840	Own.	4-3⅛x5¼	4	Det.	4	IH	Pump.	Sp.Pr.	Zenith.	Grav.	Mon.	.....	.....	25	Remy.	Bat.	A-L.	A-L.	6-8
Chicago C	1½	144	S-*36x3½	S-*36x5	....	Herc.	4-4 x5	3	Det.	4	"L" H.	Pump.	Press.	Strom.	Grav.	.....	Cent.	1300	18	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Chicago C	2½	157½	S-36x4	S-36x7	....	Herc.	4-4 x5	3	Det.	4	"L" H.	Pump.	Press.	Strom.	Grav.	.....	Cent.	1350	16	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Chicago C	3½	156	S-36x5	S-36x10	....	Herc.	4-4½x5½	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Strom.	Grav.	Duplex.	Cent.	1250	12½	Bosch.	Mag.	Bosch*.	Bocsh*.	6-8
Chicago D	5	155	S-36x6	S-40x12	....	Herc.	4-4½x5½	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Zenith.	Grav.	Duplex.	Cent.	1250	10	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Clydesdale 10	..	138	P-34x5	P-34x5	3100	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Sp.Pr.	Zenith.	Vac.	.....	.....	.....	...	Bosch.	Bat.	Bosch.	Bosch.	6-8
Clydesdale 8	..	156	S-36x4	S-36x7	4000	Cont.	4-4¼x5½	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Zenith.	Vac.	Own.	Cent.	1150	17	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Clydesdale 6	..	163	S-	S- d	5500	Cont.	4-4¼x5½	3	Det.	2	"L" H.	Pump.	Fl.Pr.	Zenith.	Vac.	Own.	Cent.	1300	15	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Clydesdale 4	..	177	S-36x6	S-40x6d	7100	Cont.	4-4½x6	3	Det.	2	"L" H.	Pump.	Fl.Pr.	Zenith.	Vac.	Own.	Cent.	1200	14	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Clydesdale 2	..	176	S-36x7	S-40x7d	9000	Cont.	4-4¾x6	3	Det.	2	"L" H.	Pump.	Fl.Pr.	Zenith.	Vac.	Own.	Cent.	1175	12	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Commerce 9	¾	126	P-32x4½	P-32x4½	3000	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Fl.Sp.	Zenith.	Vac.	.....	.....	2200	40	Bosch.	Bat.	Bijur.	Bijur.	6-8
Commerce 12	1½	130	P-35x5	P-35x5	3100	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Fl.Sp.	Zenith.	Vac.	.....	.....	2200	40	Eisem.	Mag.	Bijur.	Bijur.	6-8
Commerce 25	2½	156	S-*36x6	S-*40x8	5200	Cont.	4-4¼x5½	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Zenith.	Vac.	.....	.....	.....	30	Eisem.	Mag.	Bijur.	Bijur.	6-8
Concord A	2	140	S-36x3½	S-36x6	5200	Buda.	4-4 x5½	3	Det.	4	"L" H.	Pump.	Press.	Zenith.	Vac.	Mon.	Suc.	1400	18	Eisem.	Mag.	West*.	West*.	6-8
Concord B	3	150	S-36x4	S-36x8	5450	Buda.	4-4¼x5½	3	Det.	4	"L" H.	Pump.	Press.	Zenith.	Vac.	Mon.	Suc.	.....	...	Eisem.	Mag.	West*.	West*.	6-8
Corbitt S	¾	130	P-34x4½	P-34x4½	3700	H-S.	4-3½x5	3	Det.	4	"L" H.	Th-S.	Sp.Pr.	St em.	Vac.	.....	.....	.....	...	Split.	Mag.	Dyn.	Dyn.	6-8
Corbitt E	1	130	S-34x3½	S-34x4	3770	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Sp.Pr.	Strom.	Vac.	Duplex.	Cent.	.....	18	Eisem.	Mag.	Bijur*.	Bijur*.	6-8
Corbitt D	1½	140	S-34x3½	S-34x5	4000	Cont.	4-3⅜x5	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Strom.	Vac.	Duplex.	Cent.	1400	18	Eisem.	Mag.	G&D*.	G&D*.	6-8
Corbitt C	2	148	S-36x3½	S-36x7	5265	Cont.	4-4¼x5½	3	Int.	4	"L" H.	Pump.	Sp.Pr.	Strom.	Vac.	Duplex.	Cent.	.....	16	Eisem.	Mag.	G&D*.	G&D*.	6-8
Corbitt B	2½	152	S-36x4	S-36x7	5400	Cont.	4-4¼x5½	3	Det.	4	"L" H.	Pump.	Fl.Pr.	Strom.	Vac.	Duplex.	Cent.	.....	16	Eisem.	Mag.	G&D*.	G&D*.	6-8
Day-Elder AS	1-1½	128	P-35x5	P-35x5	3000	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Sp.Pr.	Zenith.	Grav.	.....	.....	1800	25	Eisem.	Mag.	Eisem*.	West*.	6-8
Day-Elder B	1½-2	144	S-34x3½	S-34x5	3300	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Sp.Pr.	Zenith.	Grav.	.....	.....	1400	18	Eisem.	Mag.	Eisem*.	West*.	6-8
Day Elder D	2-2½	150	S-36x4	S-36x7	3950	Cont.	4-4¼x5½	3	Int.	4	"L" H.	Pump.	Sp.Pr.	Zenith.	Grav.	Mon.	Suc.	1300	16	Eisem.	Mag.	Eisem*.	West*.	6-8
Day Elder C	2½-3	150	S-36x4	S-36x7	4600	Buda.	4-4¼x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Mon.	Suc.	1200	15	Eisem.	Mag.	Bosch*.	West*.	6-8
Day-Elder F	3½-4	165	S-36x5	S-36x5d	5600	Cont.	4-4¼x5½	3	Int.	2	"L" H.	Pump.	Sp.Pr.	Zenith.	Grav.	.....	.....	1150	12	Eisem.	Mag.	Eisem*.	.....	6-8
Day-Elder E	5-6	162	S-36x5	S-40x6	8400	Buda.	4-4½x6	3	Int.	4	"L" H.	Pump.	Press.	Zenith.	Grav.	.....	.....	865	10	Eisem.	Mag.	Eisem*.	.....	6-8
Dearborn E	1	132	P-35x5	P-35x5	3500	Buda.	4-3⅜x5½	3	Det.	4	"L" H.	Pump.	Press.	Strom.	Vac.	.....	.....	3500	45	Conn.	Bat.	Bosch.	Bosch.	6-8
Dearborn F	1½	126	S-34x4	S-34x5	3280	Buda.	4-3½x5⅛	3	Int.	4	"L" H.	Th-S.	Press.	Strom.	Vac.	.....	.....	2600	28	Bosch.	Mag.	Bosch.	Bosch.	6-8
Dearborn 48	2	148	S-34x4½	S-34x7	4000	Buda.	4-3½x5⅛	3	Int.	4	"L" H.	Th-S.	Press.	Strom.	Vac.	.....	.....	2600	22½	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Defiance G	1	128	P-35x5	P-35x5	....	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Sp.Pr.	Strom.	Vac.	.....	.....	1800	30	.....	.....	.....	.....	.....
Denby 31	¾-1½	130	P-34x4½	P-34x4½	2840	Cont.	4-3½x5	3	Int.	4	"L" H.	Th-S.	Sp.Pr.	Strom.	Grav.	.....	.....	.....	...	Eisem.	Mag.	Remy.	Remy.	6-8

ABREVIATIONS:
*—Weight with Trailers
‡‡—Taken from 1922 Specifications

TIRE SIZE:
S—Solid
P—Pneumatic
C—Cushion
S*—Pneumatics Optional at extra cost
d—Dual

ENGINE:
Midw—Midwest
Cont—Continental
Weid—Weideley
Wisc—Wisconsin
Wauk—Waukesha
Herc—Hercules
H-S—Herschell-Spillman
Lycom—Lycoming
Det—Detachable
Int—Integral
I. H.—Both Valves in Head
"L" H—"L" Head
"F" H—"F" Head
"T" H—"T" Head
Th-S—Thermo-Siphon
Sp. Pr.—Splash with Pressure to Main Crankshaft Bearings
Press—Pressure to all Crankshaft Bearings excluding Wrist Pins
Fl. Pr.—Full Pressure to all bearings including wrist pins
John—Johnson
Ray—Rayfield
Strom—Stromberg
Scheb—Schebler
Stew—Stewart
Tillot—Tillotson
Press—Pressure
Vac—Vacuum
Grav—Gravity
Mon—Monarch
McC—McCanna
Cent—Centrifugal
Hydr—Hydraulic
Suc—Suction

ELECTRICAL SYSTEM:
A-K—Atwater-Kent
A-L—Auto-Lite
Conn—Connecticut
Dyn—Dyneto
Eisem—Eisemann
G. & D.—Gray & Davis
L-N—Leece-Neville
N. E.—North East
Split-Splitdorf
West—Westinghouse
***Opt**—Optional at extra cost
Mag—Magneto
Bat—Battery

TRANSMISSION:
B. & B.—Borg & Beck
B-L—Brown-Lipe
Camp—Campbell
Detl—Detlaff
Detr—Detroit
Durs—Durston
G-L—Grant-Lees
Mech—Mechanics
Twin D—Twin Disc
H-S—Hele-Shaw
Warn—Warner
M. D. D.—Multiple Dry Disk
M. D. O.—Multiple Disk in Oil
S. P.—Single Plate
C. M.—Constant Mesh
S. G.—Sliding Gear
Pl—Planetary

Truck Specifications

TRANSMISSION																RUNNING GEAR									
Clutch		Gearset					Universals		Rear Axle							Brakes				Steering Gear		Wheels			MAKE AND MODEL
Make	Type	Make	Model	Type	Location	No. For. Spds.	Make	Type	Make	Model	Type of Axle or Jackshaft	Propulsion Taken By	Torque Taken By	Final Drive	Gear Reduct.	Foot Type and Location	Hand Type and Location	Springs Rear Type	Front Axle Make	Make	Type	Make	Type	Frame Make	
B-L...	MDD	B-L...	35	SG	SU...	4	Univ	M...	Timk.	6560	½F	SP...	SP...	W	7.75	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	St.M...	Art...	Own...	Ace	30
B-L...	MDD	B-L...	35	SG	SU ...	4	Univ	M...	Timk.	6460	½F	SP...	SP...	W	7.50	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Dayton	CS...	Own...	Ace	40
B-L...	MDD	B-L...	50		SU...	4	Univ	M&F.	Timk.	6560	½F	SP...	SP...	W	8.50	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Dayton	CS...	Own...	Ace	60
B&B..	SP...	Cotta.	AAU..	CM..	Un.E	3	Blood.	M...	Timk.	6250	½F	SP...	SP...	W	6.75	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Bimel.	Art...	Smith.	Acme	20
B&B..	SP...	Cotta	AAU..	CM..	Un.E	3	Blood.	M...	Timk.	6352	½F	SP...	SP...	W	6.20	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Bimel.	Art...	Smith.	Acme	30
B&B..	SP...	Cotta	AAU..	CM..	Un.E	3	Blood	M...	Timk.	6460	½F	SP...	SP...	W	8.75	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Bimel.	Art...	Smith.	Acme	40
B&B..	SP...	Cotta	RU...	CM..	Un.E	4	Blood	M...	Timk.	6460	F	SP...	SP...	W	9.25	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Bimel.	Art...	Smith.	Acme	60
B&B..	SP...	Cotta	RU...	CM..	Un.E	4	Blood	M...	Timk.	6460	F	SP...	SP...	W	8.75	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Bimel.	Art...	Smith.	Acme	60L
B&B..	SP...	Cotta	5	CM..	SU...	4	Blood	M...	Timk.	6660	F	RR.	SP...	W	10.33	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Bimel.	Art...	Smith.	Acme	90
B&B..	SP...	Cotta	T....	CM..	SU ...	4	Blood	M...	Timk.	6760	F	RR.	SP...	W		Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Smith.	CS...	Smith.	Acme	125
Detl..	MDD	Cotta		CM..	Un.E	4	Acme	M...	Thom.	4	F	SP...	SP...	W	8.66	Int-RW	Int-RW	½Ell...	Savage	Ross.	W&S.	Indest.	PS...	Detr...	American	25
Detl..	MDD	Cotta	R....	CM..	SU	4	Acme	M...	Thom.	DWM.	F	RR.	SP...	W	10.33	Int-RW	Int-RW	½Ell...	Savage	Lav..	W&S.	Indest.	PS...	Detr...	American	50
B-L...	MDD	B-L...	35	SG	Un.E	4	Spicer	M...	Timk.	6460		RR.	SP...	W	7.75	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	StM...	Art...	Smith.	Armleder	30
B-L...	MDD	B-L...	50	SG	Un.E	4	Spicer	M...	Timk.	6560	F	RR.	SP...	W	9.25	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	StM...	Art...	Smith.	Armleder	HWB
Fuller.	MDD	Fuller.	GU...	SG	Un.E	4	Spicer	M...	Timk.	6560	F	RR.	SP...	W	9.25	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	StM...	Art...	Smith.	Armleder	HWC
B-L...	MDD	B-L...	50	SG	Un.E	4	Spicer	M...	Timk.	6660	F	RR.	SP...	W	10.33	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	StM...	Art...	Own...	Armleder	KWB
Fuller.	MDD	Fuller.	GU...	SG	Un.E	4	Spicer.	M...	Timk.	6660	F	RR.	SP...	W	10.33	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	StM...	Art...	Own...	Armleder	KWC
Fuller.	MDD.	Fuller.	LTU4.	SG	Un.E.	3	Spicer.	M...	Timk.	6460	½F	SP...	SP...	W	7.75	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Arch...	Art...	Savage.	Atterbury	20R
B-L...	MDD.	B-L...	51	SG	SU...	4	Spicer.	M...	Timk..	6560	F	SP...	SP...	W	9.25	Int-RW	Int-RW	½Ell...	Timk.	Gemm	W&W.	Arch...	Art...	Savage.	Atterbury	22C
B-L...	MDD.	B-L...	55	SG	SU...	4	Spicer.	M...	Timk.	6660	F	SP...	SP...	W	10.33	Int-RW	Int-RW	½Ell...	Timk.	Gemm	W&W.	Arch...	Art...	Savage.	Atterbury	22D
B-L...	MDD.	B-L...	60	SG	SU...	4	Spicer.	M...	Timk.	6760	F	RR.	SP...	W	11.66	Int-RW	Int-RW	½Ell...	Timk.	Gemm	W&W.	Dayton	CS...	Savage.	Atterbury	8E
Own...	SP...	Own...	.....	SG	SU...	3	Spicer.	M...	Own...	.....	F	SP...	SP...	DR.	8.30	Ex-RW	Int-RW	Plat..	Own..	Ross.	S&N..	Hoopes.	Art...	Parish.	Autocar	21UF
Own...	SP...	Own...	.....	SG	SU...	4	Spicer.	M...	Own...	.....	F	SP...	SP...	DR.	7.72	Int-RW	Int-RW	½Ell.	Own..	Ross.	S&N..	Hoopes.	Art...	Parish.	Autocar	27H
Own...	SP...	Own...	.....	SG	SU...	4	Spicer.	M...	Own...	.....	F	SP...	SP...	DR.	8.72	Int-RW	Int-RW	½Ell.	Own..	Ross.	S&N..	Hoopes.	Art...	Parish.	Autocar	26Y
B-L...	MDD.	B-L...	30	SG	Un.E.	3	Spicer.	M...	Timk.	6460	½F.	RR.	SP...	W	7.00	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	StM...	Art...	Own...	Available	JH
B-L...	MDD.	B-L...	35	SG	SU...	4	Spicer.	M...	Timk.	6560	F	RR.	SP...	W	8.50	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	StM...	Art...	Own...	Available	H
B-L...	MDD.	B-L...	50	SG	SU...	4	Spicer.	M...	Timk.	6660	F	RR.	SP...	W	10.33	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	StM...	Art...	Own...	Available	H
B-L...	MDD.	B-L...	60	SG	SU...	4	Spicer.	M...	Timk.	6760	F	RR.	SP...	W	11.66	Int-RW	Int-RW	½Ell...	Timk.	Ross.	S&N..	Smith.	CS...	Own...	Available	H
Own...	MDD	Own...	.....	SG	Un.E.	3	Peters.	M...	Own...	.....		SP...	SP...	IG.	8.00	Ex-RW	Int-RW	½Ell.	Own..	Ross.	W&S.	.....	Art...	Smith.	Avery	
Fuller.	MDD.		.....	PL...	Un.E..	3	Therm	F....	Iron M		½F	SP...	SP...	W		Int-RW	Ex-RW	½Ell.	Shul.	Lav..	S&N..	StM...	Art...	P&B...	Beck	A30
Fuller.	MDD.	Fuller.	.....	SG...	Un.E..	3	Blood.	M...	Torb..	A....	½F	SP...	SP...	IG..	7.00	Int-RW	Ex-RW	½Ell.	Shul.	Lav..	S&N..	StM...	Art...	P&B...	Beck	B-30
Fuller.	MDD.	Fuller.	FU2.	SG...	Un.E..	3	Blood.	M...	Clark.	2	½F	SP...	SP...	W	9.00	Int-RW	Ex-RW	½Ell.	Shul.	Lav..	S&N..	StM...	Art...		Beck	C-40
Fuller.	MDD.	Fuller.	TU½.	SG...	Un.E..	3	Arvac.	M...	Torb.	A....	½F	SP...	SP...	IG.	7.00	Ex-RW	Int-RW	½Ell.	Shul.	Ross.	S&N..	Schwa.	Art...	Parish.	Bessemer	G
B&B..	SP...	Baker	BC-1.	SG ..	SU....	3	Arvac.	M...	L-M.	7150	½F	RR.	SP...	DR.	7.40	Int-RW	Int-RW	½Ell.	Shul.	Ross.	S&N..	Schwa.	Art...	Parish.	Bessemer	H2
B&B..	SP...	B-L...	330X	SG..	SU....	4	Arvac.	M...	L-M.	7250	½F	RR.	SP...	DR.	6.50	Int-RW	Int-RW	½Ell.	Shul.	Ross.	S&N..	Schwa.	Art...	Parish.	Bessemer	J2
B&B..	SP...	B-L...	312X	SG	SU....	4	Spicer.	M...	Torb.	E....	½F	RR.	SP...	IG..	10.25	Int-RW	Int-RW	½Ell.	Shul.	Ross.	S&N..	Smith.	CS...	Stand.	Bessemer	K2
B&B..	SP...	Detr.	DY...	SG...	Un.E..	3	Spicer.	M...	Eaton.	3070 R	½F	SP...	SP...	SP.	5.87	Ex-RW	Int-RW	½Ell.	Eaton.	Ross.	S&N..	Jones.	Art...	Detr.	Bethlehem	KN
B&B..	SP...	Detr.	CX...	SG...	Un.E..	3	Univ.	M...	Wisc.	60A	½F	SP...	SP...	DR	7.75	Int-RW	Int-RW	½Ell.	Sheld.	Lav..	S&N..	Smith.	Art...	Detr.	Bethlehem	GN
Fuller.	MDD.	Fuller.	GU7..	SG...	Un.E..	4	Univ.	M...	Wisc.	88E	½F	SP...	SP...	DR.	....	Int-RW	Int-RW	½Ell.	Sheld.	Lav..	S&N..	Smith.	Art...	Detr.	Bethlehem	HN
B&B..	SP...	B-L...	30	SG...	Un.E..	3	Hart.	M...	Wisc.	800A	½F	SP...	SP...	W	7.20	Int-RW	Int-RW	½Ell.	Shul.	Ross.	W&W.	Jones.	Art...	Own...	↕Bridgeport	A
B&B..	SP...	B-L...	35	SG...	Un.E..	4	Hart.	M...	Eaton.	105	½F	SP...	SP...	W	7.20	Int-RW	Int-RW	½Ell.	Shul.	Ross.	W&W.	Jones.	Art...	Own...	Bridgeport	B
B&B..	SP...	B-L...	50	SG...	SU....	4	Hart.	M...	Eaton.	607	½F.	RR.	SP...	W	10.25	Int-RW	Int-RW	½Ell.	Shul.	Ross.	W&W.	Jones.	Art...	Own...	↕Bridgeport	C
B-L...	MDD.	B-L...	30	SG...	Un.E..	3	M&E.	M...	Colum	5200	½F.	SP...	SP...	SB.	5.12	Ex-RW	Int-RW	½Ell.	Colum	Gemm	W&W.	Bimel.	Art...	Own...	Brockway	E2
B-L...	MDD.	B-L...	30	SG...	Un.E..	3	Spicer.	M...	Timk.	6460	½F.	RR.	SP...	W	7.75	Int-RW	Int-RW	½Ell.	Timk.	Gemm	W&W.	Hoopes.	Art...	Own...	Brockway	S
B-L...	MDD.	B-L...	35	SG...	SU....	4	Spicer.	M...	Timk.	6560	F.	RR.	SP...	W	7.75	Int-RW	Int-RW	½Ell.	Timk.	Gemm	W&W.	Hoopes.	Art...	Own...	Brockway	K
B-L...	MDD.	B-L...	55	SG...	SU....	4	Spicer.	M...	Timk.	6660	F.	RR.	SP...	W	8.75	Int-RW	Int-RW	½Ell.	Timk.	Gemm	W&W.	Smith.	CS...	Own...	Brockway	R
B-L...	MDD.	B-L...	60	SG...	SU....	4	Spicer.	M...	Timk.	6760	F.	RR.	SP...	W	10.25	Int-RW	Int-RW	½Ell.	Timk.	Gemm	W&W.	Smith.	CS...	Own...	Brockway	T
Covert	MDD.	Covert	.....	SG...	SU....		Spicer.	M...	Sheld.	W21	½F.	SP...	SP...	W	8.75	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	W&W.	Jones.	Art...	Sharon	Buffalo	6
Own..	MDD.	Own...	.....	SG...	Un.E..	3	Own..	M...	Own...	.....	½F.	TT..	TT..	SP.	4.66	Int-RW	Ex-RW	½Ell.	Own..	Jacox	S&N..	Own...	Art...	Own...	Buick	SD
TwinD	SP...	Own...	.....	SG..	Un.E..	3	Peters.	M....	Torb..	C139		SP...	SP...	IG.	8.00	Ex-RW	Int-RW	½Ell..	Torb..	Ross..	S&N..	StM...	Art...	Own...	Case	TR
Own...	Cone..	Mun...	.....	SG...	Un.E..	3	Own..	M...	Own...	.....	½F.	SP...	SP...	SP.	3.57	Ex-RW	Int-RW	½Ell...	Own..	Own..	BP&S.	Hayes.	Art...	Own...	Chevrolet	
Own...	Cone..	Mun...	.....	SG...	Un.E..	3	Own..	M...	Own...	.....	½F.	SP...	SP...	SP.	6.33	Ex-RW	Int-RW	½Ell...	Own..	Own..	BP&S.	Hayes.	Art...	Own...	Chevrolet	G
Own...	Cone..	Mun...	.....	SG...	Un.E..	3	Own..	M...	Own...	.....	½F.	SP...	SP...	W	7.00	Int-RW	Int-RW	½Ell...	Own..	Own..	W&W.	Hayes.	Art...	Own...	Chevrolet	T
B-L...	MDD.	B-L...	30-3	SG...	Un.E..	3	Peters.	M....	Huck..	15	F....	SP...	SP...	DR.	....	Int-RW	Int-RW	½Ell...	Timk.	Gemm	W&W.	StM...	Art...	Own...	Chicago	C
B-L...	MDD.	B-L...	35	SG...	Un.E..	4	Peters.	M....	Huck..	25	F....	SP...	SP...	DR.	....	Int-RW	Int-RW	½Ell...	Timk.	Gemm	W&W.	StM...	Art...	Own...	Chicago	C
B-L...	MDD.	B-L...	50	SG...	SU....	4	Peters.	M....	Huck..	50	F....	SP...	SP...	DR.	....	Int-RW	Int-RW	½Ell...	Timk.	Gemm	W&W.	Eaton.	CS...	Own...	Chicago	C
B-L...	MDD.	B-L...	50	SG...	SU....		Peters.	M....	Huck..	50	F....	SP...	SP...	DR.	....	Int-RW	Int-RW	½Ell...	Timk.	Gemm	W&W.	StM...	CS...	Own...	Chicago	D
B&B..	SP...	B-L...	20	SG...	Un.E..	3	Spicer.	M....	Timk.	5511	½F.	SP...	SP...	SP.	6.11	Int-RW	Int-RW	½Ell...	Timk.	Ross	S&N..	Indest.	PS...	P&B...	Clydesdale	10
B-L...	MDD.	B-L...	35	SG...	SU....	4	Spicer.	M....	Timk.	6460	F....	RR.	SP...	W	7.00	Int-RW	Int-RW	½Ell...	Timk.	Ross	S&N..	.....	.....	P&B...	Clydesdale	8
B-L...	MDD.	B-L...	50	SG...	SU....	4	Spicer.	M....	Timk.	6560	F....	RR.	SP...	W	9.20	Int-RW	Int-RW	½Ell...	Timk.	Ross	S&N..	.....	CS...	P&B...	Clydesdale	6
B-L...	MDD.	B-L...	60	SG...	SU....	4	Spicer.	M....	Timk.	6666	F....	RR.	SP...	W	10.37	Int-RW	Int-RW	½Ell...	Timk.	Ross	S&N..	.....	CS...	P&B...	Clydesdale	4
B-L...	MDD.	B-L...	60	SG...	SU....	4	Spicer.	M....	Timk.	6760	F....	RR.	SP...	W	11.66	Int-RW	Int-RW	½Ell...	Timk.	Ross	S&N..	.....	CS...	P&B...	Clydesdale	2
Detr.	Cone.	Detr.	C....	SG...	Un.E..	3	Univ.	M....	Salis.	D16	½F.	SP...	SP...	SP.	5.87	Ex-RW	Int-RW	½Ell...	Salis.	Jacox	S&N..	Budd.	PS...	Detr...	Commerce	9
B-L...	MDD.	B-L...	35	SG...	Un.E..	4	Spicer.	M....	Torb.	A3	½F.	SP...	SP...	IG.	8.00	Ex-RW	Int-RW	½Ell...	Salis.	Jacox	S&N..	.....	Art...	Detr...	Commerce	12
B-L...	MDD.	B-L...	51	SG...	SU....	4	Univ.	M....	Timk.	6560	F....	RR.	SP...	W	7.75	Int-RW	Int-RW	½Ell...	Timk.	Ross	S&N..	.....	Art...	Parish.	Commerce	25
B-L...	MDD.	B-L...	35	SG...	Un.E..	4	Spicer.	M....	Timk.	6460	½F.	SP...	SP...	W	7.75	Ex-RW	Ex-RW	½Ell...	Timk.	Ross.	W&S.	Arch...	Art...	P&B...	Concord	A
B-L...	MDD.	B-L...	50	SG...	Un.E..	4	Spicer.	M....	Timk.	6560	½F.	SP...	SP...	W	9.25	Ex-RW	Ex-RW	½Ell...	Timk.	Ross.	W&S.	Arch...	Art...	P&B...	Concord	B
B-L...	MDD.	B-L...	30-3	SG...	Un.E..	3	Hart.	M....	Sheld.	W1001	½F.	SP...	SP...	W	6.00	Int-RW	Int-RW	½Ell...	Sheld.	Ross.	W&W.	Bimel.	Art...	Own...	Corbitt	S
B-L...	MDD.	B-L...	30-3	SG...	Un.E..	3	Hart.	M....	Sheld.	W1001	½F.	SP...	SP...	W	6.00	Int-RW	Int-RW	½Ell...	Sheld.	Ross.	S&N..	Bimel.	Art...	Own...	Corbitt	E
B-L...	MDD.	B-L...	30-3	SG...	Un.E..	3	Hart.	M....	Sheld.	W1501	½F.	SP...	SP...	W	7.80	Int-RW	Int-RW	½Ell...	Sheld.	Ross.	S&N..	Bimel.	Art...	Parish.	Corbitt	D
B-L...	MDD.	B-L...	35-3	SG...	Un.E..	3	Hart.	M....	Sheld.	W103	½F.	SP...	SP...	W	8.66	Int-RW	Int-RW	½Ell...	Sheld.	Ross.	S&N..	Bimel.	Art...	Own...	Corbitt	C
B-L...	MDD.	B-L...	50-4	SG...	Un.E..	4	Hart.	M....	Sheld.	W21	½F.	SP...	SP...	W	8.75	Int-RW	Int-RW	½Ell...	Sheld.	Ross.	S&N..	Bimel.	Art...	Own...	Corbitt	B
B-L...	MDD.	B-L...	20	SG...	Un.E..	3	Spicer.	M....	Sheld.	W1001	½F.	SP...	SP...	W	6.00	Int-RW	Int-RW	½Ell...	Sheld.	Gemm	W&W.	Jones.	Art...	Savage	Day-Elder	AS
Covert	MDD.	Covert	MU...	SG...	Un.E..		Hart.	M....	Sheld.	W1501	½F.	SP...	SP...	W	7.80	Int-RW	Int-RW	½Ell...	Colum	Gemm	W&W.	Jones.	Art...	Savage	Day-Elder	B
Covert	MDD.	Covert	RU...	SG...	Un.E..	4	Hart.	M....	Sheld.	W103	½F.	SP...	SP...	W	8.66	Int-RW	Int-RW	½Ell...	Colum	Gemm	W&W.	.....	Art...	Savage	Day Elder	D
Covert	MDD.	Covert	RU...	SG...	Un.E..	4	Hart.	M....	Sheld.	W21	½F.	SP...	SP...	W	8.75	Int-RW	Int-RW	½Ell...	Sheld.	Gemm	W&W.	Jones.	Art...	Savage	Day Elder	C
B-L...	MDD.	B-L...	50	SG...	Un.E..	4	Hart.	M....	Sheld.	W31	½F.	SP...	SP...	W	10.25	Int-RW	Int-RW	½Ell...	Colum	Gemm	W&W.	Jones.	Art...	Savage	Day-Elder	F
B-L...	MDD.	B-L...	60	SG...	SU....	4	Hart.	M....	Sheld.	W51	½F.	SP...	SP...	W	10.25	Int-RW	Int-RW	.....	Sheld.	Gemm	W&W.	Jones.	Art...	Savage	Day-Elder	E
Fuller.	MDD.	Fuller.	SU7...	SG...	Un.E..	3	Pick.	F....	Wisc.	.....	½F.	SP...	SP...	W	6.20	Int-RW	Int-RW	½Ell...	Torb.	Ross.	S&N..	Prud...	Art...	Smith.	Dearborn	E
Fuller.	MDD.	Fuller.	SU7...	SG...	Un.E..		Hart.	M....	Wisc.	Special	½F.	SP...	SP...	W		Int-RW	Int-RW	½Ell...	Torb.	Ross.	S&N..	Prud...	Art...	Smith.	Dearborn	F
Fuller.	MDD.	Fuller.	SU7...	SG...	Un.E..		Hart.	M....	Wisc.	.....	½F.	SP...	SP...	W		Int-RW	Int-RW	½Ell...	Torb.	Ross.	S&N..	Prud...	Art...	Own...	Dearborn	48
B&B..	SP...	G-L...	515	SG...	Un.E..	3	Spicer.	M....	Eaton.	1000	½F.	SP...	SP...	SB.	6.14	-RW	-RW	½Ell...	Colum	.....	W&W.	StM...	Art...	Detr...	Defiance	G
Fuller.	MDD.	Fuller.	SU1..	SG...	Un.E..	3	Univ..	M....	Clark.	B300.	½F.	SP...	SP...	SP.	5.85	Ex-RW	Int-RW	½Ell...	Sheld.	Ross	S&N..	Motor.	Art...	Detr	Denby	31

Un. E.—Unit with Engine
S. U.—Separate Unit
Un. J.—Unit with Jackshaft
M. & F.—Metal & Fabric
M—Metal
F—Fabric
East—Easton
Univ—Universal
Ther—Thermoid-Hardy
Mech—Mechanics

AXLES:
Dunk—Dunkirk
Colum—Columbia
Iron M.—Iron Mountain
Salis—Salisbury
Shul—Shuler
Sheld—Sheldon
Thom—Thomson
Timk—Timken
Vul—Vulcan
Wisc—Wisconsin
Torb—Torbenson
Sp—Springs
R. & T.—Radius Rods and Torque Tube
R. R.—Radius Rods
T. T.—Torque Tube
T. A.—Torque Arm
W—Worm
D. R.—Double Reduction
I. G.—Internal Gear
S. B.—Straight Bevel
S. P.—Spiral Bevel
Ch—Chain
½ F.—½ Floating
¾ F.—¾ Floating
F—Full Footing

RUNNING GEAR:
Int. R. W.—Internal Rear Wheels
Ex. R. W.—External Rear Wheels
Ext. J. S.—External Jackshaft
Int. D. S.—Internal Driveshaft
T. ½ E.—Transverse ½ Elliptic
½ Ell.—½ Elliptic
¾ Ell.—¾ Elliptic
Plat—Platform
Lav—Lavine
Gemm—Gemmer
S. & N.—Screw & Nut
W. & W.—Worm & Wheel
W. & N.—Worm & Nut
B. P. & S.—Bevel, Pinion & Sector
A.-W.—Auto-Wheel
Can—Canadian Bridge Co.
Imp—Imperial
St. M.—St. Marys
Indest—Indestructible
Schwn—Schwartz
Hoopes—Hoopes Bros. & Darlington
Arch—Archibald
Prud—Prudden
Detr—Detroit
Stand—Standard
Med—Medway
Inters—Interstate
North—Northwestern
Domin—Dominion
Fires—Firestone
E. & O.—Eberly & Oris
Art—Artillery
C.S.—Cast Steel
P. S.—Pressed Steel
Detr—Detroit
Hyd—Hydraulic
Rals—Ralston
P. & B.—Parish & Bingham

American Gasoline Truck

MAKE AND MODEL	GENERAL					ENGINE													ELECTRICAL SYSTEM				
			Standard Tire Size and Type											Fuel System		Governor		Max. Gov. Speeds		Ignition Systems				
	Tons Capacity	Standard Wheelbase (Ins.)	Front	Rear	Chassis Weight (Lbs.)	Make	No. of Cylinders Bore and Stroke	Point Suspension	Cylinder Head	No. of Cyls. per C'st'g.	Valve Arrangement	Water Circulation	Oiling System	Carbureter Make	Fuel Feed	Make	Type	In. R. P. M. of Engine	In. M. P. H. of Truck	Make	Current Sources	Generator Make	Starter Make	Voltage
Denby	2	136	P-35x5	P-38x7	3740	Cont.	4-3¾x5	3	Int.	4	"L"H.	Th-S.	Sp.Pr.	Strom.	Grav.					Eisem.	Mag.	Remy.	Remy.	6-8
Denby	3	155	S-36x4	S-36x7	4500	Cont.	4-4½x5½	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Strom.	Grav.	Duplex.	Cent.	1500	18	Eisem.	Mag.	Eisem*.	Bosch*.	6-8
Denby	4	170	S-36x5	S-36x5	7020	Cont.	4-4½x5½	3	Int.	2	"L"H.	Pump.	Sp.Pr.	Strom.	Grav.	Duplex.	Cent.	1050	12	Eisem.	Mag.	Opt.*.	Opt.*.	6-8
Denby	210	170	S-36x6	S-40x6	8590	Cont.	4-4½x5½	3	Int.	2	"L"H.	Pump.	Sp.Pr.	Strom.	Grav.	Duplex.	Cent.	1050	10	Eisem.	Mag.			
Dependable	CD	1½-2	151	P-*34x4	C-34x6	4350	Buda.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	Mon.	Suc.		18	Split.	Mag.	A-L*.	A-L*.	6-8
Dependable	EG	2½-3	167	C-36x4	C-36x8	5900	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	Mon.	Suc.		14	Split.	Mag.	A-L*.	A-L*.	6-8
Diamond T	O3	1-1½	132	S-36x3½	S-36x4	3800	Hink.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Hink.	Cent.	1425	28	Bosch.	Mag.	Bosch*.	Bijur*.	6-8
Diamond T	T	1½	144	S-36x3½	S-36x5	4000	Hink.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Hink.	Cent.	1425	20	Bosch.	Mag.	Bosch*.	Opt.*.	6-8
Diamond T	K	3½	170	S-36x5	S-36x5d	7250	Hink.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.			1250	13	Bosch.	Mag.	Bosch*.	Opt.*.	6-8
Diamond T	EL	5	180	S-36x6	S-40x6d	8625	Hink.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.			1250	12	Bosch.	Mag.	Bosch*.	Opt.*.	6-8
Diamond T	S	5	170	S-36x6	S-40x6d	8790		4-4½x6	3	Det.	2	"L"H.	Pump.	Press.	Strom.	Vac.	Hink.	Cent.	1250	12	Bosch.	Mag.	Bosch*.	Bijur*.	6-8
Dixon	C	2½	154	S-36x4	S-36x8	5600	Cont.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Zenith.	Vac.	Pierce.	Cent.	1400	18	Bosch.	Mag.			
Dixon	A	3½-5	160	S-36x5	S-36x12	7100	Cont.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Zenith.	Vac.	Pierce.	Cent.	1400	15	Bosch.	Mag.			
Doane		2½	147	S-36x5	S-36x7	5500	Wauk.	4-4½x5½	3	Int.	2	"L"H.	Pump.	Press.	Strom.	Grav.	Wauk.	Cent.	1000	13	Split.	Mag.			
Doane		3½	172	S-36x5	S-36x10	7000	Wauk.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Press.	Strom.	Grav.	Wauk.	Cent.	1000	11	Bosch.	Mag.			
Doane		6	178	S-36x6	S-40x12		Wauk.	4-5 x6½		Det.	2	"L"H.	Pump.	Press.	Strom.	Grav.	Wauk.	Cent.	1000	11	Bosch.	Mag.			
Dodge		¾	114	P-32x4	P-32x4	1992	Own.	4-3½x4½	3	Det.	4	"L"H.	Pump.	Sp.Pr.	Stew.	Vac.					N.E.	Bat.	N.E.	N.E.	12-16
D-Olt	A1	1	148	P-35x5	P-35x5	3400	H-S.	4-3½x5	3	Det.	4	"L"H.	Th-S.	Sp.Pr.	Zenith.	Vac.					Bosch.	Mag.	West.	West.	6-8
Dorris	K4	2½	144	S-36x4	S-36x7	5050	Own.	4-4½x5½	3	Det.	4	IH.	Pump.	Sp.Pr.	Strom.	Vac.	Own.	Cent.		25	Bosch.	Mag.	West*.	West*.	6-8
Dorris	K7	3½	154	S-36x7	S-36x10		Own.	4-4½x5½	3	Det.	4	IH.	Pump.	Sp.Pr.	Strom.	Vac.	Own.	Cent.		18	Bosch.	Mag.	West.	West.	6-8
Dort		½	108	P-31x4		Lycom	4-3½x5	3	Det.	2	"L"H.	Th-S.	Spl.	Carter.	Vac.					Conn.	Bat.	Bosch.	Bosch.	6-8
Duplex	A	2	145	P-35x5	P-38x7	3900	Hink.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.					West.	Bat.	West.	West.	6-8
Duplex	E	3½	130	S-36x8	S-36x8	6100	Buda.	4-4½x5½	3	Int.	4	"L"H.	Pump.	Press.	Scheb.	Vac.	Own.	Cent.	1100	14	Eisem.	Mag.			
Eagle	100	2	130	S-*34x4	S-34x7	4100	Buda.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Opt.				Eisem.	Mag.	Bosch*.	Bosch*.	6-8
Eugol	752	1	135	P-34x5	P-34x5	3500	Buda.	4-3½x5¼	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.					West.	Bat.	West.	West.	6-8
F.W.D.	B	3	124	S-36x6	S-36x6	6460	Wisc.	4-4½x5½	3	Int.	2	"T"H.	Th-S.	Press.	Strom.	Grav.	Pierce.	Cent.	1350	16	Eisem.	Mag.	N.E*.	N.E*.	12-16
Fageol		1½	136	S-34x3½	S-34x6	4300	Wauk.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Sp.Pr.	Zenith.	Vac.	Wauk.	Cent.	1000		Split.	Mag.	Opt.*.	Opt.*.	6-8
Fageol		2½	150	S-*34x4	S-*36x7	4600	Wauk.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Vac.	Wauk.	Cent.	1100		Split.	Mag.	Opt.*.	Opt.*.	6-8
Fageol		3½-4	172	S-36x5	S-36x5d	7300	Wauk.	4-4½x6½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Vac.	Wauk.	Cent.	1000	15	Split.	Mag.	Opt.*.	Opt.*.	6-8
Fageol		5-6	172	S-36x6	S-40x6d	8300	Wauk.	4-4½x6½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Vac.	Wauk.	Cent.	900	10	Split.	Mag.	Opt.*.	Opt.*.	6-8
Federal	R2	1	132	P-33x5	P-33x5	2950	Cont.	4-3½x5	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.			1450		Eisem.	Mag.	Remy.	Remy.	6-8
Federal	S-21-22	1½	144	S-*36x3½	S-*36x5	3950	Cont.	4-3½x5	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Zenith.	Vac.			1450		Eisem.	Mag.	Remy.	Remy.	6-8
Federal	U-2	2½	156	S-36x4	S-36x4d	5400	Cont.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Zenith.	Vac.	Pharo.	Cent.	1300	18	Eisem.	Mag.	Remy.	Remy.	6-8
Federal	WL	3½	156	S-36x5	S-36x5d	7150	Cont.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Fl.Pr.	Zenith.	Vac.	Pharo.	Cent.	1200	15	Eisem.	Mag.	Remy.	Remy.	6-8
Federal	X-2	5-6	163	S-36x6	S-40x6d	8700	Cont.	4-4½x6	3	Det.	2	"L"H.	Pump.	Fl.Pr.	Zenith.	Vac.	Pharo.	Cent.	1100	12	Eisem.	Mag.	Remy.	Remy.	6-8
Ford	TT	1	123	P-30x3½	P-32x4½	1440	Own.	4-3½x4	3	Det.	4	"L"H.	Th-S.	Spl.	Own.	Grav.					Own.	Mag.	Own*.	Own*.	6-8
Front Drive		1½	120	S-36x5	S-36x4	3500	Buda.	4-4½x5¼	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	Duplex.	Cent.	1300	20	Split.	Mag.			
G.M.C.	K-16	1	132	P-34x5	P-34x5	3250	Own.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Marvel.	Grav.	Own.	Cent.	1485	25	Eisem.	Mag.	Remy.	Remy.	6-8
G.M.C.	K-41A	2	146	S-36x4	S-36x7	5245	Own.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Marvel.	Grav.	Own.	Cent.	1220	18	Eisem.	Mag.	Remy.	Remy.	6-8
G.M.C.	K-41T	2	127	S-36x4	S-36x8	5300	Own.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Marvel.	Grav.	Own.	Cent.	1220	15	Eisem.	Mag.	Remy.	Remy.	6-8
G.M.C.	K-71A	3½	163	S-36x5	S-40x5d	7945	Own.	4-4½x6	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Marvel.	Grav.	Own.	Cent.	1250	17	Eisem.	Mag.	Remy.	Remy.	6-8
G.M.C.	K-71T	3½	138	S-36x5	S-40x12	7885	Own.	4-4½x6	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Marvel.	Grav.	Own.	Cent.	1250	14	Eisem.	Mag.	Remy.	Remy.	6-8
G.M.C.	K-101A	5	163	S-36x5	S-40x6d	8645	Own.	4-4½x6	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Marvel.	Grav.	Own.	Cent.	1260	15	Eisem.	Mag.	Remy.	Remy.	6-8
G.M.C.	K-101T	5	138	S-36x5	S-40x14	8585	Own.	4-4½x6	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Marvel.	Grav.	Own.	Cent.	1260	12	Eisem.	Mag.	Remy.	Remy.	6-8
G.W.W.		1½	142	P-35x5	P-35x5	3200	Weid.	4-3½x5½	3	Det.	4	IH.	Pump.	Press.	Scheb.	Grav.						Bat.			6-8
Garford	15	1	132	P-34x5	P-34x5	3500	Buda.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.					A-K.	Bat.	A-K.	A-K.	6-8
Garford	25B	1½	135	S-36x3½	S-36x5	4000	Buda.	4-3½x5½	3	Int.	4	"L"H.	Pump.	Press.	Strom.	Vac.			1303	20	Split.	Mag.	A-L.	A-L.	6-8
Garford	70H	2½	144	S-36x4	S-36x8	5300	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Cent.	1158	17	Split.	Mag.	A-K	West.	6-8
Garford	77D	4	162	S-36x5	S-36x5d	7700	Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Cent.	1225	15	Split.	Mag.	A-K	West.	6-8
Garford	68D	5	162	S-36x6	S-40x6d	9350	Buda.	4-5 x6½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Cent.	1035	14	Split.	Mag.	West.	West.	12-16
Garford	150A	7½	162	S-36x6	S-40x7d	10200	Buda.	4-5 x6½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Cent.	1057	11	Split.	Mag.	West*.	West*.	12-16
Gary	F	1	132	S-36x3½	S-36x5	3500	Buda.	4-3½x5½	3	Det.	4	"L"H.	Th-S.	Press.	Master.	Vac.	McC.	Suc.	1350	20	Eisem.	Mag.	Vesta*.	West*.	6-8
Gary	I	2	144	S-36x3½	S-36x7	4500	Buda.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	McC.	Suc.	1150	15	Eisem.	Mag.	Vesta*.	West*.	6-8
Gary	J	2½	148	S-36x4	S-36x8	5500	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	McC.	Suc.	1200	15	Eisem.	Mag.	Vesta*.	West*.	6-8
Gary	JO	2½	150	P-36x6	P-40x8	5450	Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	McC.	Suc.	1200	17	Eisem.	Mag	Vesta*.	West*.	6-8
Gary	YTO	3½	162	S-36x5	S-40x10		Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	McC.	Suc.	1000	12	Eisem.	Mag	Vesta*.	West*.	6-8
Gary	M	5	182	S-36x6	S-40x12		Buda.	4-5 x6½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	McC.	Suc.	1000	10	Eisem.	Mag.	Vesta*.	West*.	6-8
Goodwin		7½-10		S-36x7	S-40x8		Buda.	4-5 x6½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.		Pharo.			14	Eisem.	Mag.			
Graham	B-F	1-1½	140	P-33x4½	P-36x6	2550	Dodge	4-3½x4½	3	Det.	4	"L"H.	Pump.	Sp.Pr.	Stew.	Vac.					N.E.	Bat.	N.E.	N.E.	12-16
Gramm-Pioneer	10	1	129	S-*33x5	P-33x5	2870	Lycom	4-3½x5	3	Det.	4	"L"H.	Th-S.	Press.	Strom.	Grav.					Conn.	Bat.	A.L.	A.L.	6-8
Gramm-Pioneer	15	1½	138	S-*36x3½	S-*36x5d	3660	Cont.	4-3½x5	3	Int.	4	"L"H.	Th-S.	Sp.Pr.	Strom.	Grav.					N.E.	Bat.	N.E.	N.E.	6-8
Gramm-Pioneer	65	1½	138	S-*36x3½	S-*36x5d	3860	Cont.	4-3½x5	3	Det.	4	"L"H.	Th-S.	Fl.Pr.	Strom.	Grav.					N.E.	Bat.	N.E.	N.E*.	6-8
Gramm-Pioneer	20	2	144	S-*36x4	S-*36x8d	4910	Cont.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Pierce.		1350		N.E.	Bat.	N.E.	N.E*.	6-8
Gramm-Pioneer	30	3	150	S-*36x5	S-*36x10d	6640	Hink.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Hink.		1200		Eisem.	Mag.	N.E.	N.E*.	6-8
Gramm-Pioneer	40	4	156	S-*36x5	S-*36x10d	7980	Hink.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Hink.		1200		Eisem.	Mag.	N.E.	N.E*.	6-8
Gramm-Pioneer	50	5-6	168	S-*36x6	S-*40x10d	9700	Cont.	4-4½x6	3	Det.	2	"L"H.	Pump.	Press.	Strom.	Grav.	Cont.		1100		Eisem.	Mag.	N.E*.	N.E*.	6-8
Hahn	K-4	2	157	S-*36x4	S-*36x7d	4700	Cont.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Pharo.	Cent.	1400	16	Bosch.	Mag.	Delco*.	Delco*.	6-8
Hahn	K-L	3	150	S-*36x5	S-*36x12d	5455	Cont.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Pharo.	Cent.	1400	14	Bosch.	Mag.	Delco*.	Delco*.	6-8
Hal-Fur	E	1	136	P-34x5	P-34x5	3400	Hink.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.					Bosch.	Mag.	West*.	West*.	6-8
Hal-Fur	G	1½	134	P-34x5	P-38x7	3800	Hink.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.					Apollo.	Mag.	West*.	West*.	6-8
Hal-Fur	B	2½	168	P-36x6	S-36x8	5300	Hink.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Hink.	Cent.	1350	30	Apollo.	Mag.	West*.	West*.	6-8
Hal-Fur	F	3½	180	S-36x6	S-40x12	7000	Hink.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.	Hink.	Cent.	1000	22	Apollo.	Mag.	West*.	West*.	6-8
‡‡Hall		2½	156	S-36x4	S-36x4d		Cont.	4-4½x5½	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Duplex	Cent.	1400	22	Bosch.	Mag.	Eisem*.		6-8
‡‡Hall		3½	144	S-36x5	S-36x5d		Cont.	4-4½x5½	3	Int.	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Duplex	Cent.	1300	18	Bosch.	Mag.	Eisem*.		6-8
‡‡Hall		5	144	S-36x5	S-40x6d		Cont.	4-4½x5½	3	Int.	2	"T"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Duplex	Cent.	1300	15	Bosch.	Mag.	Eisem*.		6-8
‡‡Hall		5-7	144	S-36x5	S-40x6d		Cont.	4-4½x5½	3	Int.	2	"T"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Duplex	Cent.	1300	15	Bosch.	Mag.	Eisem*.		6-8
Harvey	WDA	2	160	S-34x4	S-34x7	5400	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	McC.	Suc.	1285	18	Split.	Mag.	West*.	West*.	
Harvey	WFB	2½	160	S-*36x4	S-*36x7	5900	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	McC.	Suc.	1285	18	Split.	Mag.	West*.	West*.	
Harvey	WHB	3½	160	S-36x5	S-36x5d	7600	Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	McC.	Suc.	1000	12	Split.	Mag.	West.	West.	
Harvey	WFT	6	125	S-36x5	S-36x10	5660	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	McC.	Suc.			Split.	Mag.	West*.	West*.	
Harvey	WHT	10	125	S-36x6	S-36x12	7800	Buda.	4-5½x6	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	McC.	Suc.			Split.	Mag.	West*.	West*.	
‡‡Hawkeye	K	1½	148	S-*34x3½	S-*34x5		Buda.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex	Cent.	1400	17	Eisem.	Mag.			
‡‡Hawkeye	M	2	148	S-*36x4	S-36x6		Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex	Cent.	1200	15	Eisem.	Mag.	Eisem*.	West*.	6-8
‡‡Hawkeye	N	3½	170	S-36x5	S-36x10		Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex	Cent.	1200	12	Eisem.	Mag.	Eisem*		6-8
Hendrickson	O	1½	130	S-36x4	S-36x5	4250	Buda.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.		Suc.			Split.	Mag.			
Hendrickson	N	3	140	S-36x4	S-36x7d	5500	Buda.	4-4½x5½	4	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav	McC.	Suc.			Split.	Mag.			
Hendrickson	M	4	165	S-36x5	S-36x10d	6940	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	McC.	Suc.			Split.	Mag.			
Hendrickson	K	6	170	S-36x6	S-40x13d	8500	Wauk.	4-5 x6	3	Det.	2	"L"H.	Pump.	Press.	Strom.	Grav.	Wauk.	Cent.			Split.	Mag.			
Hug	T	1½	118	P-34x5	P-34x5	2900	Buda.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.					Split.	Mag.			
Indiana	10	1	130	P-34x5	P-34x5	3300	Wauk.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Spl.	Zenith.	Grav.					Bosch.	Bat.	Bosch.	Bosch.	6-8
Indiana	12	1½-2	146	S-34x3½	S-34x5	4100	Wauk.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.					Eisem.	Mag.			
Indiana	25	2½-3	156	S-36x4	S-36x8	5850	Own.	4-4½x5½	3	Int.	2	"L"H.	Pump.	Press.	Zenith.	Grav.	Pierce.	Cent.	1150	16	Eisem.	Mag.			
Indiana	35	3½-4	160	S-36x5	S-36x5d	7050	Own.	4-4½x5½	3	Int.	2	"L"H.	Pump.	Press.	Zenith.	Grav.	Pierce.	Cent.	1150	12	Eisem.	Mag.			
Indiana	51	5-7	170	S-36x5	S-40x6d	8730	Wauk.	4-5 x6½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Grav.	Pierce.	Cent.	800	11	Eisem.	Mag.			
International	5	1	124	P-32x4½	P-32x4½	2600	Lycom	4-3½x5	3	Det.	4	"L"H.	Th-S.	Sp.Pr.	Ensign.	Grav.					Conn.	Bat.	A-L.	A-L.	6-8

For abbreviations see pages 404-405.

Specifications (Continued)

TRANSMISSION																RUNNING GEAR																						MAKE AND MODEL
Clutch		Gearset					Universals		Rear Axle							Brakes				Steering Gar		Wheels																	
Make	Type	Make	Model	Type	Location	No. For. Spds.	Make	Type	Make	Model	Type of Axle or Jackshaft	Propulsion Taken By	Torque Taken By	Final Drive	Gear Reduct.	Foot Type and Location	Hand Type and Location	Springs Rear Type	Front Axle Make	Make	Type	Make	Type	Frame Make															
Fuller	MDD	Fuller	LTU4	SG	UnE	3	Univ	M	Clark	1D	F	SP	SP	IG	7.25	Ext-DS	Ex-RW	Ell	Timk	Ross	S&N	Motor	Art	Detr	Denby	33
Fuller	MDD	Fuller	G7	SG	SU	4	Univ	M	Clark	2D	F	SP	SP	IG	8.00	Ext-DS	Ex-RW	Ell	Eaton	Ross	S&N	Smith	CS	Detr	Denby	35
Own	MDD	Warn	T53	SG	SU	4	Univ	M	Clark	3D	F	SP	SP	IG	10.00	Ex-RW	Int-RW	Ell	Eaton	Ross	W&S	Smith	CS	Detr	Denby	27
Own	MDD	Warn	T53	SG	SU	4	Peters	M	Clark	5D	F	SP	SP	IG	12.55	Int-RW	Ext-DS	Ell	Eaton	Ross	W&S	Clark	CS	Detr	Denby	210
Fuller	MDD	Fuller	LTN3	SG	Un.E	3	Arvac	M	Wisc	800J	F	SP	SP	W	8.00	Int-RW	Int-RW	Ell	Shul	Ross	S&N	Bimel	Art	P&B	Dependable	CD
Fuller	MDD	Fuller	G7	SG	SU	4	Arvac	M	Wisc	900C	F	SP	SP	W	9.25	Int-RW	Int-RW	Ell	Shul	Ross	S&N	Bimel	Art	P&B	Dependable	EG
Covert	MDD	Covert	MUC	SG	Un.E	3	Spicer	M	Own		F	SP	SP	W	7.20	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Schwa	Art	Smith	Diamond T	O3
Covert	MDD	Covert	MUC	SG	Un.E	3	Spicer	M	Timk	6460	F	SP	SP	W	8.25	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Schwa	Art	Smith	Diamond T	T
Covert	MDD	Covert	RU4C	SG	Un.E	4	Spicer	M	Timk	6560	F	SP	SP	W	8.25	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Schwa	Art	Smith	Diamond T	U
Covert	MDD	Covert	SA4	SG	SU	4	Spicer	M	Timk	6666	F	SP	SP	W	8.75	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Smith	CS	Smith	Diamond T	K
Covert	MDD	Covert	SA4	SG	SU	4	Spicer	M	Timk	6760	F	SP	SP	W	13.66	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Smith	CS	Smith	Diamond T	EL
B-L	MDD	B-L	60	SG	SU	4	Spicer	M	Timk	6760	F	SP	SP	W	11.66	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Smith	CS	Smith	Diamond T	S
Fuller	MDD	Fuller		SG	Un.E		Hart	M	Timk	6560	F	SP	SP	W	Opt	Int-RW	Int-RW		Vul	Ross	W&W	Smith	CS	Sharon	Dixon	C
Fuller	MDD	Fuller		SG	Un.E	4	Hart	M	Timk	6666	F	SP	SP	W	Opt	Int-RW	Int-RW		Timk	Ross	W&W	Smith	CS	Sharon	Dixon	A
B-L	MDD	B-L		SG	Un.E	3	Own	F	Own			RR	SP	Ch	7.72	Ext-JS	Int-RW	Ell	Own	Lav	S&N	West	CS	Own	Doane	
B-L	MDD	B-L	50UPP	SG	Un.E	3	Own	F	Own			RR	SP	Ch	9.49	Ext-JS	Int-RW	Ell	Own	Lav	S&N	West	CS	Own	Doane	
B-L	MDD	B-L	60UPP	SG	Un.E	3	Own	F	Own			RR	SP	Ch	10.60	Ext-JS	Int-RW	Ell	Own	Lav	S&N	West	CS	Own	Doane	
Own	MDD	Own		SG	Un.E	3	Own	M	Own		F	SP	TT	SB	4.16	Ex-RW	Int-RW	Ell	Own	Own	W&W	Kelsey	Art	Own	Dodge	
B-L	MDD	B-L	30	SG	Un.E		Spicer	M	Timk	6250	F	SP	SP	W	6.50	Int-RW	Int-RW	Ell	Timk	Ross	W&W	Dayton	Wood	Own	D-Olt	A1
Own	MDD	Warn	T53	SG	SU	4	Spicer	M	Timk	6560	F	SP	SP	W	7.75	Int-RW	Int-RW	Ell	Timk	Ross	S&N	Smith	CS	Own	Dorris	K4
Own	MDD	Warn	T53	SG	SU	3	Spicer	M	Timk	6660	F	SP	SP	W	10.33	Int-RW	Int-RW	Ell	Timk	Ross	S&N	Smith	CS	Own	Dorris	K7
Detl	MDD	Own		SG	Un.E	3	Mech	M	Flint	FA105	F	SP	TT	SP	4.45	Ex-RW	Int-RW	Cant	Flint	SAG	S&N	Imp	Art	Savage	Dort	
Covert	MDD	Covert	RU3C	SG	Un.E	3	Peters	M	Sheld	W103	F	SP	SP	W	6.50	Int-RW	Int-RW	Ell	Sheld	Ross	S&N	Motor	Art	P&B	Duplex	A
B-L	MDD	B-L	50	SG	Un.E	4	Peters	M	Own			RR		IG	8.00	Ext-DS	Ex-RW		Own	Wohl	S&N	Motor	Art	P&B	Duplex	E
Covert	MDD	Covert	MUC	SG	Un.E	3	M&E	M	Russell	6000I	F	SP	SP	IG	8.80	Ex-RW		Ell	Colum	Lav	W&W		Art	Own	Eagle	100
Warn	MDD	Warn		SG	Un.E	3	Peters	M	Timk	6250	F							Ell	Timk	Ross	S&N		Art	P&B	Eugol	752
Cotta	MDO	Cotta	DAF	CM	SU	3	Blood	M	Own		F	SP	TA	SB	8.90	Int-DS	Ex-RW	Plat	Own	Ross	S&N	Schwa	Art	Own	F.W.D	B
B-L	MDD	Own		SG	Un.E	5	Univ	M	Timk	6461	F	SP	SP	W	7.80	Int-RW	Int-RW	Ell	Eaton	Ross	S&N		CS	Own	Fageol	
B-L	MDD	Own		SG	SU	5	Spicer	M	Timk	6560	F	SP	SP	W	7.75	Int-RW	Int-RW	Ell	Timk	Ross	S&N		CS	Own	Fageol	
B-L	MDD	Own		SG	SU	5	Spicer	M&F	Timk	6660	F	RR	SP	W		Int-RW	Int-RW	Ell	Timk	Ross	S&N		CS	Own	Fageol	
B-L	MDD	Own		SG	SU	5	Spicer	M&F	Timk	6760	F	RR	SP	W		Int-RW	Int-RW	Ell	Timk	Ross	S&N		CS	Own	Fageol	
B&B	SP	Detr	KY	SG	Un.E	3	Peters	M	Timk	6250	F	RR	SP	W	5.60	Int-RW	Int-RW	Ell	Timk	Gemm	W&W		PS	Detr	Federal	R2
B&B	SP	Own		SG	SU	3	Peters	M	Timk	6252	F	RR	SP	W	7.20	Int-RW	Int-RW	Ell	Own	Gemm	W&W	Motor	Art	Detr	Federal	S-11-22
B&B	SP	Detr	R-400	SG	SU	4	Spicer	M	Timk	6560	F	RR	SP	W	7.75	Int-RW	Int-RW	Ell	Own	Gemm	W&W		Art	Detr	Federal	U-2
B&B	SP	Warn	T-53	SG	SU	4	Spicer	M	Timk	6660	F	RR	SP	W	8.75	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Smith	CS	Detr	Federal	WL
B&B	SP	Warn	T62	SG	SU	4	Spicer	M	Timk	6760	F	RR	SP	W	10.25	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Smith	CS	Detr	Federal	X-2
Own	MDO	Own		PL	Un.E	2	Own	M	Own		F	R&T	TT	W	7.25	Ext-DS	Int-RW	Ell	Own	Own	PL	Own	Art	P&B	Ford	TT
B&B	SP	Own		CM	SU	3	Own	M	Own		F	SP	SP	W	7.00	Ext-DS	Int-RW		Own	Ross	S&N	Indest	PS	Savage	Front Drive	
Own	MDD	Own		SG	Un.E	3	Univ	M	Own		F	RR	SP	SP	6.00	Ex-RW	Int-RW	Ell	Own	Jacox	S&N	Kelsey	Art	Smith	G.M.C	K-16
Own	MDD	Own		SG	Un.E	7	Own	M	Timk	6560	F	RR	SP	W	7.25	Int-RW	Int-RW	Ell	Timk	Jacox	S&N	Own		Smith	G.M.C	K-41A
Own	MDD	Own		SG	Un.E	7	Own	M	Timk	6560	F	RR	SP	W	8.50	Int-RW	Int-RW	Ell	Timk	Jacox		Own	CS	Smith	G.M.C	K-41T
Own	MDD	Own		SG	SU	7	Own	M	Timk	6666	F	RR	SP	W	8.75	Int-RW	Int-RW	Ell	Timk	Jacox	S&N	Own	CS	Smith	G.M.C	K-71A
Own	MDD	Own		SG	SU	7	Own	M	Timk	6666	F	RR	SP	W	10.33	Int-RW	Int-RW	Ell	Timk	Jacox	S&N	Own	CS	Smith	G.M.C	K-71T
Own	MDD	Own		SG	SU	7	Own	M	Timk	6760	F	RR	SP	W	10.00	Int-RW	Int-RW	Ell	Timk	Jacox	S&N	Own	CS	Smith	G.M.C	K-101A
Own	MDD	Own		SG	SU	7	Own	M	Timk	6760	F	RR	SP	W	11.67	Int-RW	Int-RW	Ell	Timk	Jacox	S&N	Own	CS	Smith	G.M.C	K-101T
Fuller	MDD	Fuller	TU3	SG	Un.E	3	Acme	M	Clark	1D	F	SP	SP	IG	7.00	Ex-RW	Int-RW	Ell	Shul	Wohl	W&S	Royer	Art	Own	G.W.W	
B&B	SP	Own		SG	Un.E	3	Spicer	M	Timk	6250	F	SP	SP	W	6.25	Int-RW	Int-RW	Ell	Timk	Gemm	W&W		Art	Own	Garford	15
Own	MDD	Own		SG	SU	3	Spicer	M	Timk	6460	F	SP	SP	W	7.75	Int-RW	Int-RW	Ell	Own	Ross	S&N		Art	Own	Garford	25B
Own	MDD	Own		SG	SU	4	Spicer	M	Timk	6560	F	SP	SP	W	7.75	Int-RW	Int-RW	Ell	Timk	Ross	S&N		Art	Own	Garford	70H
Own	MDD	Own		SG	SU	4	Spicer	M	Timk	6666	F	SP	SP	W	8.75	Int-RW	Int-RW	Ell	Timk	Ross	S&N	Smith	CS	Own	Garford	77D
Own	MDD	Own		SG	SU	4	Spicer	M	Timk	6760	F	SP	SP	W	8.80	Int-RW	Int-RW	Ell	Timk	Ross	S&N	Smith	CS	Own	Garford	68D
Own	MDD	Own		SG	Un.J	4	Spicer	M	Own			RR		CH	11.44	Ext-DS	Int-RW	Ell	Timk	Ross	S&N		CS		Garford	150A
Fuller	MDD	Fuller	TU3	SG	Un.E	3	Opt	M	Timk	6460	F	RR	SP	W	7.75	Int-RW	Int-RW	Ell	Timk	Ross	S&N		Art	P&B	Gary	I
Fuller	MDD	Fuller	TU3	SG	Un.E	3	Blood	M	Timk	6352	F	SP	SP	W	7.20	Int-RW	Int-RW	Ell	Timk	Ross	S&N		Art	P&B	Gary	J
Fuller	MDD	Fuller	GU7	SG	Un.E	4	Opt	M	Timk	6560	F	RR	SP	W	8.50	Int-RW	Int-RW	Ell	Timk	Ross	S&N		Art	P&B	Gary	F
Fuller	MDD	Fuller	GU7	SG	Un.E	4	Opt	M	Timk	6560	F	RR	SP	W	8.50	Int-RW	Int-RW	Ell	Timk	Ross	S&N		Art	P&B	Gary	JO
B-L	MDD	B-L	224X	SG	SU	4	Opt	M	Timk	6660	F	RR	SP	W	10.33	Int-RW	Int-RW	Ell	Timk	Ross	S&N		CS	P&B	Gary	YTO
B-L	MDD	B-L	60	SG	SU	4	Opt	M	Timk	6760	F	RR	SP	W	11.66	Int-RW	Int-RW	Ell	Timk	Ross	S&N		CS	P&B	Gary	M
	MDD			SG	SU	4	Spicer	M						Ch		Ex-RW	Ex-RW	Ell		Gemm	W&W	Inters	CS		Goodwin	
Dodge	MDD	Dodge		SG	Un.E	3	Dodge	M	Own		F	SP	SP	SP	6.28	Ex-RW	Int-RW	Ell	Dodge	Dodge	W&W	Stand	Art	Detr	Graham	B-F
B&B	SP	G-L	573	SG	Un.E	3	Own	F	Salis	E1483	F	SP	SP	SP	5.75	Ex-RW	Ext-DS	Ell	Salis	Ross	S&N	Daytor	Art	Own	Gramm-Pioneer	10
Fuller	MDD	Fuller	LTU4	SG	Un.E	3	Snead	F	Clark	1D		SP	SP	IG	6.80	Ex-RW	Int-RW	Ell	Colum	Ross	S&N	Bimel	Art	Own	Gramm-Pioneer	15
Fuller	MDD	Own		CM	SU	3	Own	F	Eaton	603		SP	SP	W	7.75	Int-RW	Int-RW	Ell	Colum	Ross	S&N	Bimel	Art	Own	Gramm-Pioneer	65
Fuller	MDD	Own		CM	SU	4	Own	F	Sheld	W103		SP	SP	W	7.75	Int-RW	Int-RW	Ell	Colum	Ross	S&N	Bimel	Art	Own	Gramm-Pioneer	20
Own	MDD	Own		CM	SU	4	Own	F	Sheld	W21	F	SP	SP	W	7.75	Int-RW	Int-RW	Ell	Eaton	Ross	S&N	Smith	CS	Own	Gramm-Pioneer	30
Own	MDD	Own		CM	SU	4	Own	F	Sheld	W31	F	SP	SP	W	8.75	Int-RW	Int-RW	Ell	Sheld	Ross	S&N	Smith	CS	Own	Gramm-Pioneer	40
Own	MDD	Own		CM	SU	4	Own	F	Sheld	W51	F	SP	SP	W	8.75	Int-RW	Int-RW	Ell	Eaton	Ross	S&N	Smith	CS	Own	Gramm-Pioneer	50
B-L	MDD	B-L	50	SG	Un.E	4	Spicer	M	Timk	6460	F	RR	SP	W	8.75	Int-RW	Int-RW	Ell	Timk	Ross	W&S		Art		Hahn	K-4
B-L	MDD	B-L	50	SG	Un.E	4	Spicer	M	Timk	6560	F	RR	SP	W	8.50	Int-RW	Int-RW	Ell	Timk	Ross	W&S		Art	..	Hahn	K-L
M&E	SP	B-L	35	SG	Un.E	4	Peters	M	Timk	6352	F	RR	SP	W	6.00	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Smith	CS	P&B	Hal-Fur	E
M&E	SP	B-L	50	SG	Un.E	4	Peters	M	Timk	6460	F	RR	SP	W	6.00	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Smith	CS	P&B	Hal-Fur	G
M&E	SP	Own		SG	SU	4	Peters	M	Timk	6560	F	RR	SP	W	8.50	Int-RW	Int-RW	Ell	Timk	Gemm	W&W		CS	P&B	Hal-Fur	B
M&E	SP	Own		SG	SU	4	Peters	M	Timk	6660	F	RR	SP	W	12.00	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Smith	CS	P&B	Hal-Fur	F
B-L	MDD	B-L	35	SG	Un.E		Spicer	M	Timk	6560	F	SP	SP	W	7.75	Int-RW	Int-RW	Ell	Timk	Gemm	W&W	Smith	CS	Own	††Hall	
B-L	MDD	B-L	50		SU	4	Spicer	M	Timk	6652	F	SP	SP	W	10.33	Int-RW	Int-RW	Ell	Timk	Gemm	W&S	Smith	CS	Own	††Hall	
B-L	MDD	B-L	50	SG	SU	4	Spicer	M	Timk	6760	F	SP	SP	W	15.00	Int-RW	Int-RW	Ell	Timk	Gemm	W&S	Smith	CS	Own	††Hall	
B-L	MDD	B-L	60	SG	SU	4	Spicer	M	Timk		F	RR	TA	Ch	14.70	Int-RW	Int-RW	Ell	Timk	Gemm	W&S	Smith	CS	Own	††Hall	
Fuller	MDD	Fuller	TU3	SG	Un.E	3	Spicer	M	Sheld	W103	F	SP	SP	W	7.75	Int-RW	Int-RW	Ell	Sheld	Ross	S&N	StM	Art		Harvey	WDA
Fuller	MDD	B-L	50	SG	SU	4	Spicer	M	Sheld	W21	F	SP	SP	W	7.75	Int-RW	Int-RW	Ell	Sheld	Ross	S&N	StM	Art	Own	Harvey	WFB
Fuller	MDD	B-L	60	SG	SU	4	Spicer	M	Sheld	W31	F	SP	SP	W		Int-RW	Int-RW	Ell	Sheld	Ross	S&N	StM	Art	Own	Harvey	WHB
Fuller	MDD	B-L	50	SG	SU	4	Spicer	M	Sheld		F	SP	SP	W	9.50	Int-RW	Int-RW	Ell	Sheld	Ross	S&N	Smith	CS	Own	Harvey	WFT
Fuller	MDD	B-L	60	SG	SU	4	Spicer	M	Sheld		F	SP	SP	W	10.20	Int-RW	Int-RW	Ell	Sheld	Ross	S&N	Smith	CS	Own	Harvey	WHT
Fuller	MDD	Fuller	LTU	SG	Un.E	3	Hart	M	Clark	1D	F	SP	SP	IG	7.60	Ex-RW	Int-RW	Ell	Colum	Ross	S&N	Bimel	Art	Own	††Hawkeye	K
Fuller	MDD	Fuller	GU7	SG	Un.E	4	Hart	M	Clark	2D	F	SP	SP	IG	8.00	Ex-RW	Int-RW	Ell	Colum	Ross	S&N	Bimel	Art	Own	††Hawkeye	M
Fuller	MDD	Cotta	R	CS	SU	4	Hart	M	Clark	3D	F	SP	SP	IG	10.00	Ex-RW	Int-RW	Ell	Shul	Ross	S&N	Clark	CS	Own	††Hawkeye	N
Fuller	MDD	Fuller	SU1	SG	Un.E	3	Pick	F	Timk	6460	F	SP	SP	W		Int-RW	Int-RW	Ell	Timk	Ross	S&N	Mead			Hendrickson	O
Fuller	MDD	Fuller	G7	SG	SU	4	M&E	M&F	Timk	6560	F	RR		W		Int-RW	Int-RW	Ell	Timk	Ross	S&N	Inters	CS	Own	Hendrickson	N
Fuller	MDD	Fuller	G7	SG	SU	4	M&E	M&F	Timk	6660	F	RR		W	10.20	Int-RW	Int-RW	Ell	Timk	Ross	S&N	Inters	CS	Own	Hendrickson	M
Fuller	MDD	Fuller	H	SG	SU	4	M&E	M&F	Timk	6760	F	RR		W	11.60	Int-RW	Int-RW	Ell	Timk	Ross	S&N	Inters	CS	Own	Hendrickson	K
Fuller	MDD	Fuller	SU1	SG	Un.E	3	Blood	M	Clark		F	SP	SP	SP	5.50	Ex-RW	Ext-DS	Ell	Colum	Ross	S&N	Stand	Art	Own	Hug	T
B&B	SP	B-L	30	SG	Un.E	3	Peters	M	Timk	5511	F	SP	SP	SP	6.11	Int-RW	Int-RW	Ell	Timk	Ross	S&N	Indest	CS	P&B	Indiana	10
B&B	SP	B-L	35	SG	SU	3	Spicer	M	Sheld	W1501	F	RR	SP	W	7.80	Int-RW	Int-RW	Ell	Sheld	Wohl	S&N	Opt	CS	P&B	Indiana	12
B&B	SP	B-L	51	SG	SU	4	Spicer	M	Sheld	W21	F	RR	SP	W	7.25	Int-RW	Int-RW	Ell	Sheld	Wohl	S&N	Opt	CS	Own	Indiana	25
B&B	SP	B-L	55	SG	SU		Spicer	M	Sheld	31	F	RR	SP	W	8.75	Int-RW	Int-RW	Ell	Sheld	Wohl	S&N	Opt	CS	Own	Indiana	35
B&B	SP	B-L	60	SG	SU	4	Spicer	M	Sheld	51	F	RR	SP	W	8.75	Int-RW	Int-RW	Ell	Sheld	Wohl	S&N	Opt	CS	Own	Indiana	51
Muncie	MDD	Mun		SG	Un.E	3	Snead	F			F	SP	SP	IG	6.30	Ex-RW	Int-RW	Ell		CAS	W&S		Art	P&B	International	5

American Gasoline Truck

MAKE AND MODEL	GENERAL					ENGINE													ELECTRICAL SYSTEM				
			Standard Tire Size and Type											Fuel System		Governor		Max. Gov. Speeds		Ignition System				
	Tons Capacity	Standard Wheelbase (Ins.)	Front	Rear	Chassis Weight (Lbs.)	Make	No. of Cylinders Bore and Stroke	Point Suspension	Cylinder Head	No. of Cyls. per Csg.	Valve Arrangement	Water Circulation	Oiling System	Carbureter Make	Fuel Feed	Make	Type	In R. P. M. of Engine	In M. P. H. of Truck	Make	Current Sources	Generator Make	Starter Make	Voltage
International	21	1	115	S-*36x3½	S-*36x3½	3030	Own..	4-3½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Ensign.	Grav.	Own..	Cent..	1450	21	Bosch..	Mag..	N.E*..	N.E*..	6-8
International	31	1½	128	S-*36x3½	S-*36x5	3190	Own..	4-3½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Ensign.	Grav.	Own..	Cent..	1450	19	Bosch..	Mag..	N.E*..	N.E*..	6-8
International	41	2	129	S-*36x3½	S-*36x6	3680	Own..	4-3½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Ensign.	Grav.	Own..	Cent..	1450	17	Bosch..	Mag..	N.E*..	Opt.*..	6-8
International	61	3	138	S-*36x4	S-*36x7	4800	Own..	4-4¼x5	3	Det..	4	"L"H.	Th-S..	Sp.Pr.	Ensign.	Grav.	Own..	Cent..	1275	15	Split..	Mag..	Opt.*..	Opt.*..	6-8
International	101	5	160	S-*36x5	S-*40x12	6900	Own..	4-4¼x5	3	Det..	4	"L"H.	Th-S..	Sp.Pr.	Ensign.	Grav.	Own..	Cent..	1275	14	Split..	Mag..	Opt.*..	Opt.*..	6-8
K-Z	¾	125	P-33x5	P-33x5	.....	Cont..	4-3¼x5	3	Int..	4	"L"H.	Th-S..	Spl..	Strom..	Grav.	.....	.....	.....	.....	Bosch..	Bat..	Bosch..	Bosch..	6-8
K-Z	1	134	S-34x3½	S-34x5	.....	Cont..	4-3¼x5	3	Int..	4	"L"H.	Th-S..	Spl..	Strom..	Grav..	McC..	Suc..	.....	20	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
K-Z	1½	134	S-34x4	S-34x6	.....	Cont..	4-3¼x5	3	Int..	4	"L"H.	Th-S..	Spl..	Strom..	Grav.	McC..	Suc..	.....	18	Eisem..	Mag..	Bosch*.	Bosch*.	6-8
K-Z	2½	150	S-36x5	S-36x8	.....	Cont..	4-4¼x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Grav.	McC..	Suc..	.....	16	Eisem..	Mag..	Bosch*.	Bosch*.	6-8
K-Z	3½	162	S-36x5	S-36x10	.....	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Press..	Strom..	Grav.	McC..	Suc..	1200	....	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
K-Z	5	162	S-36x6	S-40x12	8500	Cont..	4-4¼x6	3	Det..	2	"L"H.	Pump.	Press..	Strom..	Grav.	Cont..	Cent..	1100	....	Bosch..	Mag..	.....	.....	6-8
Kalamazoo	T	1	134	P-34x5	P-34x5	3600	Herc..	4-4 x5	3	Det..	4	"L"H.	Pump.	Press..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kalamazoo	G1	1½–2	144	S-34x4	S-34x5	4400	Cont..	4-3½x5	3	Int..	4	"L"H.	Th-S..	Sp.Pr.	Strom..	Vac..	Pierce..	Hydr	.....	.....	Eisem..	Mag..	Dyn..	Dyn..	6-8
Kalamazoo	LG	2	144	S-36x4	S-36x7	5000	Herc..	4-4 x5	3	Det..	4	"L"H.	Pump.	Press..	.....	Vac..	.....	.....	.....	.....	.....	Opt.*.	Opt.*.	.....	.....
Kalamazoo	NH	3	160	S-36x5	S-36x10	6200	Wisc..	4-4 x6	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pierce..	Hydr	.....	.....	Bosch..	Mag..	Dyn.*.	Dyn.*.	12-16
Kalamazoo	HD	3	160	S-36x5	S-36x10	6400	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pierce..	Hydr	.....	.....	Bosch..	Mag..	Dyn.*.	Dyn.*.	12-16
Kalamazoo	SK	4	160	S-36x5	S-35x12	7800	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pierce..	Hydr	.....	.....	Bosch..	Mag..	Dyn.*.	Dyn.*.	12-16
Kalamazoo	OK	5	160	S-36x6	S-40x14	8700	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pierce..	Hydr	.....	.....	Bosch..	Mag..	Dyn.*.	Dyn.*.	12-16
Kearns	H	1	118	P-33x5	P-33x5	2565	H-S..	4-3½x5	3	Det..	4	"L"H.	Th-S..	Sp.Pr.	Zenith.	Vac..	.....	.....	.....	.....	Bosch..	Mag..	Dyn..	Dyn..	6-8
Kearns	N1	2	136	S-*36x6	S-*38x7	3815	Herc..	4-4 x5	3	Det..	4	"L"H.	Pump.	Press..	Zenith.	Grav..	Duplex.	Cent..	.....	.....	Bosch..	Mag..	A-L..	A-L..	6-8
Kelly-S	K34	1–1½	144	S-36x3½	S-36x6	4670	Own..	4-3½x5½	3	Int..	4	"L"H.	Pump.	Press..	Zenith.	Grav.	Pierce.	Cent.	1300	16	Eisem..	Mag..	Delco.	Delco	6-8
Kelly-S	K38	2½	150	S-36x4	S-36x4d	5200	Own..	4-3½x5½	3	Int..	4	"L"H.	Pump.	Press..	Zenith.	Grav.	Pierce.	Cent.	1300	12	Eisem..	Mag..	Delco*	Delco*	6-8
Kelly-S	K35	2½	144	S-36x4	S-36x4d	5000	Own..	4-3½x5½	3	Int..	4	"L"H.	Pump.	Press..	Zenith.	Grav.	Pierce.	Cent.	1300	12	Eisem..	Mag..	Delco*	Delco*	6-8
Kelly-S	K42	3½	156	S-36x5	S-40x5d	8500	Own..	4-4½x6½	3	Int..	2	"T"H.	Pump.	Press..	Zenith.	Grav.	Pierce.	Cent.	1300	14	Eisem..	Mag..	Delco*	Delco*	6-8
Kelly-S	K49	3½	150	S-36x5	S-40x5d	7730	Own..	4-4½x6½	3	Int..	2	"T"H.	Pump.	Press..	Zenith.	Grav.	Pierce.	Cent.	1300	13	Eisem..	Mag..	Delco*	Delco*	6-8
Kelly-S	K41	3½–5	156	S-36x5	S-36x10	7900	Own..	4-4½x6½	3	Int..	2	"T"H.	Pump.	Press..	Zenith.	Grav.	Pierce.	Cent.	1300	14	Eisem..	Mag..	Delco*	Delco*	6-8
Kelly-S	K50	5	158	S-36x6	S-40x6d	8400	Own..	4-4½x6½	3	Int..	2	"T"H.	Pump.	Press..	Zenith.	Grav.	Pierce.	Cent.	1300	12	Eisem..	Mag..	Delco*	Delco*	6-8
Kelly-S	K61	5–7	158	S-36x6	S-36x7d	9025	Own..	4-4½x6½	3	Int..	2	"T"H.	Pump.	Press..	Zenith.	Grav.	Pierce.	Cent.	1300	12	Eisem..	Mag..	Delco*	Delco*	6-8
Keystone		2	144	P-34x5	S-38x7	4000	Buda..	4-3½x5½	3	Int..	4	"L"H.	Th-S..	Sp.Pr.	Zenith.	Grav.	Pierce.	Cent.	1150	17	Berling.	Mag..	Bosch.	Bosch.	6-8
Kimball	AB	2	147	S-*36x4	S-*36x4d	4750	Wisc..	4-4 x6	3	Det..	4	"L"H.	Pump.	Press..	Zenith.	Vac..	.....	.....	.....	.....	Split..	Mag..	Split*.	West*.	6-8
Kimball	AC	2½–3	158	S-*36x5	S-*36x5d	6000	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Zenith.	Vac..	.....	.....	.....	.....	Split..	Mag..	Split*.	West*.	6-8
Kimball	AM	4	164	S-36x6	S-40x7d	8000	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Zenith.	Vac..	.....	.....	.....	.....	Split..	Mag..	Split*.	Opt.*..	6-8
Kimball	AF	5	164	S-36x6	S-40x7d	9500	Wisc..	4-4½x6	3	Det..	2	"L"H.	Pump.	Press..	Zenith.	Vac..	.....	.....	.....	.....	Split..	Mag..	Split*.	Opt.*.	6-8
‡‡Kissel		1½	152	S-36x3½	S-36x6	.....	Own..	4-3½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Strom..	Vac..	Pierce.	Cent..	1400	12	.....	Mag..	.....	.....	6-8
‡‡Kissel		2½	168	S-36x4	S-36x8	.....	Own..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Strom..	Vac..	Pierce.	Cent..	1400	12	.....	Mag..	.....	.....	6-8
‡‡Kissel		3½	168	S-36x5	S-36x12	.....	Own..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Strom..	Vac..	Pierce.	Cent..	1400	12	.....	Mag..	.....	.....	.....
Kleiber		1	130	S-34x3½	S-34x6	4800	Cont..	4-3½x5	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Grav..	.....	.....	.....	.....	Bosch..	Mag..	Bosch..	Opt.*.	.....
Kleiber		1½	143	S-36x4	S-36x7	5600	Cont..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Grav..	.....	.....	.....	.....	Bosch..	Mag..	.....	Opt.*.	.....
Kleiber		2½	160	S-36x5	S-36x10	6880	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Strom..	Grav..	.....	.....	.....	.....	Bosch..	Mag..	Bosch.	Opt.*	.....
Kleiber		3½	163	S-36x5	S-36x12	7680	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Strom..	Grav..	.....	.....	.....	.....	Bosch..	Mag..	Bosch.	Bosch*	.....
‡‡Koehler	D	1½	137	S-34x3½	S-34x5	.....	H-S..	4-3½x5	3	Det..	4	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav..	Duplex.	Cent.	1275	18	Split..	Mag..	West*.	Opt.*.	6-8
‡‡Koehler	M	2½	165	S-36x4	S-36x7	.....	Herc..	4-4 x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Zenith.	Grav..	Duplex.	Cent.	1375	16	Split..	Mag..	West*.	Opt.*.	6-8
‡‡Koehler	F	3½	162	S-36x5	S-36x5d	.....	Herc..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Zenith.	Vac..	Pierce.	Cent.	1350	14	Split..	Mag..	West*.	Opt.*.	6-8
Krebs	24	1	140	P-34x5	P-34x5	3700	Cont..	4-3½x5	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Zenith.	Vac..	Own..	Cent.	.....	35	Bosch..	Mag..	Bosch.	Bosch.	6-8
Krebs	45	1½	160	S-36x4	S-36x7	5000	Cont..	4-4¼x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Zenith.	Vac..	Own..	Cent.	1200	20	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
Krebs	75	2½	163	S-36x4	S-36x8d	5700	Cont..	4-4¼x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Zenith.	Vac..	Own..	Cent.	1200	18	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
Krebs	110	3½	170	S-36x5	S-40x10d	7300	Cont..	4-4¼x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Zenith.	Vac..	Own..	Cent.	1100	15	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
Krebs	110SP	3½	170	S-36x5	S-40x10d	7910	Cont..	4-4¼x6	3	Det..	2	"L"H.	Pump.	Press..	Zenith.	Vac..	Own..	Cent.	1100	15	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
Krebs	140	5	176	S-36x6	S-40x6d	9350	Cont..	4-4¼x6	3	Det..	2	"L"H.	Pump.	Press..	Zenith.	Vac..	Own..	Cent.	1000	11	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
L.M.C.	2-20	2½	164	S-36x4	S-36x4d	4500	Cont..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Strom..	Vac..	Pierce..	Cent.	1150	14	Bosch..	Mag..	.....	.....	.....
Lange	E	2½	153	S-36x4	S-36x7	5600	Cont..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	.....	.....	.....	.....	Bosch..	Mag..	.....	.....	.....
Larrabee	X2	1–1½	138	P-34x5	P-34x5	3350	Cont..	6-3¾x4½	3	Det..	6	"L"H.	Pump.	Press..	Zenith.	Grav..	.....	.....	.....	.....	Bosch..	Bat..	Bosch*.	Bosch*.	6-8
Larrabee	J4	1½–2½	132	S-34x3½	S-34x5	4000	Cont..	4-3¾x5	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Zenith.	Grav.	Pharo..	Hydr..	1400	18	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
Larrabee	K5	2½–3½	158	S-36x4	S-36x8	5750	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Zenith.	Grav.	Pharo..	Hydr..	1150	15	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
Larrabee	L4	3½–4½	160	S-36x5	S-36x10d	7660	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Zenith.	Grav.	Pharo..	Hydr..	1200	12	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
Luedinghaus	C	1	130	P-35x5	P-35x5	2850	H-S..	4-3½x5	3	Det..	4	"L"H.	Th-S.	Sp.Pr.	Scheb..	Grav.	.....	.....	.....	.....	Split..	Mag..	Dyn.	Dyn.	6-8
Luedinghaus	W	1½	145	S-34x3½	S-34x5	4200	Wauk..	4-3½x5½	3	Det..	2	"L"H.	Pump.	Spl..	Scheb..	Grav..	Wauk..	Cent.	.....	.....	Split..	Mag..	Opt.*.	Opt.*.	.....
Luedinghaus	K	2–2½	145	S-*36x4	S-*36x7	4400	Wauk..	4-4¼x5½	3	Int..	2	"L"H.	Pump.	Spl..	Scheb..	Grav..	Wauk..	Cent..	1239	16	Split..	Mag..	.....	.....	.....
Maccar	L2	1½	150	S-36x4	S-36x6	4900	Cont..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Pierce..	Cent..	1621	18	Eisem..	Mag..	Bosch*.	Bosch*.	6-8
Maccar	HA	2	162	S-36x4	S-36x4d	5300	Cont..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Pierce..	Cent..	1581	18	Eisem..	Mag..	Bosch*.	Bosch*.	6-8
Maccar	H2	3	162	S-36x4	S-36x5d	5700	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Pierce..	Cent..	1270	16	Eisem..	Mag..	Bosch*.	Bosch*.	6-8
Maccar	M3	4	174	S-36x5	S-36x6d	6975	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Pierce..	Cent..	1308	16	Eisem..	Mag..	Bosch*.	Bosch*.	6-8
Maccar	G	5–6	186	S-36x5	S-36x6d	9000	Cont..	4-4½x6	3	Det..	2	"L"H.	Pump.	Press..	Strom..	Vac..	Cont..	Cent.	1120	13	Eisem..	Mag..	Bosch*.	Bosch*.	6-8
‡‡MacDonald	A	7½	180	S-40x7	S-40x14	.....	Buda..	4-4½x6	3	Det..	2	"L"H.	Pump.	Press..	Strom..	Grav.	Duplex.	Cent.	1300	10	.....	.....	.....	.....	.....
Mack	AB	1½	Opt..	S-36x4	S-36x3½d	5000	Own..	4-4 x5	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1275	19	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AB	1½	Opt..	S-36x4	S-36x3½d	5300	Own..	4-4 x5	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1275	18	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AB	2	Opt..	S-36x4	S-36x4d	5100	Own..	4-4½x5	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1275	19	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AB	2	Opt..	S-36x4	S-36x4d	5400	Own..	4-4½x5	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1275	18	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AB	2½	Opt..	S-36x4	S-36x4d	5200	Own..	4-4½x5	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1275	19	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AB	2½	Opt..	S-36x4	S-36x4d	5600	Own..	4-4½x5	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1275	14	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AC	3½	Opt..	S-36x5	S-40x5d	7970	Own..	4-5 x6	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1175	18	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AC	5	Opt..	S-36x6	S-40x6d	8550	Own..	4-5 x6	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1175	16	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AB	5	Opt..	S-36x4	S-36x4d	4940	Own..	4-4½x5	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1275	12	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AC	6½	Opt..	S-36x6	S-40x12d	8572	Own..	4-5 x6	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1175	17	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AC	7	Opt..	S-36x5	S-40x5	7670	Own..	4-5 x6	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1175	15	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AC	7½	Opt..	S-36x7	S-40x7	8950	Own..	4-5 x6	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1175	14	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AC	10	Opt..	S-36x6	S-40x6d	8250	Own..	4-5 x6	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1175	14	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AC	13	Opt..	S-36x6	S-40x12d	8272	Own..	4-5 x6	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1175	12	Split..	Mag..	L-N*..	L-N*..	12-16
Mack	AC	15	Opt..	S-36x6	S-40x7d	8650	Own..	4-5 x6	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Own..	Cent.	1175	11	Split..	Mag..	L-N*..	L-N*..	12-16
Mason		1	131	P-34x5	P-34x5	2950	Herc..	4-4 x5	3	Det..	4	"L"H.	Pump.	Press.	John..	Grav.	.....	.....	.....	.....	A-L..	Bat..	A-L.	A-L..	6-8
‡‡Master	JW	1½	142	S-34x3½	S-34x5	....	Buda..	4-4¼x5½	3	Int..	4	"L"H.	Pump.	Press.	Own..	Vac..	McC..	Suc..	1175	15	.....	Mag..	.....	.....	.....
‡‡Master	D	2½	144	S-34x4	S-36x7	....	Buda..	4-4¼x5½	3	Int..	4	"L"H.	Pump.	Press.	Own..	Vac..	McC..	Suc.	1100	13	.....	Mag..	.....	.....	.....
‡‡Master	A	3½	158	S-36x5	S-40x5d	....	Buda..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press.	Own..	Vac..	Pierce..	Cent..	1000	11	.....	Mag..	.....	.....	.....
‡‡Master	B	5	170	S-36x6	S-40x6d	....	Buda..	4-4½x6½	3	Det..	4	"L"H.	Pump.	Press.	Own..	Vac..	Pierce..	Cent..	925	9	.....	Mag..	.....	.....	.....
Maxwell		1½	124	P-35x5	P-35x5	2385	Own..	4-3¾x4½	3	Det..	4	"L"H.	Th-S.	Press.	Stew..	Grav.	.....	.....	2200	25	A-K..	Bat..	A-L.	..... *	6-8
Menominee		1	132	P-34x5	P-34x5	3500	Wisc..	4-4 x5	3	Det..	4	IH....	Pump.	Sp.Pr.	.....	.....	.....	.....	.....	35	Eisem..	Mag..	.....	.....	.....
Menominee	D	2	144	S-36x4	S-36x8	4525	Wisc..	4-4 x6	3	Det..	4	"L"H.	Pump.	Press.	Strom..	Grav.	Mon..	Cent.	1350	16	Eisem..	Mag..	Bosch*.	Bosch*.	6-8
Menominee	J	5	160	S-42x9	S-42x10d	8200	Wisc..	4-4½x6	3	Det..	2	"L"H.	Pump.	Press.	Strom..	Grav.	Mon..	Cent.	1250	14	Eisem..	Mag..	Bosch*.	Bosch.	6-8
Moreland	BX	1½	132	S-36x3½	S-36x6	4100	Herc..	4-4 x5	3	Det..	4	"L"H.	Pump.	Press.	Zenith.	Grav.	.....	.....	.....	.....	A-L..	Bat..	A-L.	A-L..	6-8
Moreland	EX	2	150	S-36x4	S-36x8	4975	Cont..	4-4¼x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	.....	.....	.....	.....	Split..	Mag..	West*.	West*.	6-8
Moreland	AX	3	160	S-36x5	S-36x10	5880	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	.....	.....	.....	.....	Split..	Mag..	West..	West..	6-8
Moreland	RX	5	168	S-36x6	S-40x12	8100	Cont..	4-4¼x6	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	.....	.....	.....	.....	Split..	Mag.	West..	.....	.....
Nash	2018	1–1½	130	S-34x4	S-34x5	3400	Own..	4-3½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Strom.	Grav.	Duplex.	Cent.	1500	22	Eisem..	Mag..	A-L..	A-L..	6-8
Nash	4017F	2–2½	124	S-36x6	S-36x6	6250	Buda..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Cent.	1270	16	Eisem..	Mag..	A-L..	A-L..	6-8
Nash	3018	2–2½	144	S-34x4	S-34x7	3850	Own..	4-3½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Strom.	Grav.	Duplex.	.....	1500	17	Eisem..	Mag..	A-L..	A-L..	6-8
Nash	5018	2½	121	S-34x4	S-34x7	3900	Own..	4-3¾x5¼	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Strom.	Grav.	Duplex.	.....	1500	15	Eisem..	Mag..	A-L..	A-L..	6-8

For abbreviations see pages 404-405.

Specifications (Continued)

TRANSMISSION																		RUNNING GEAR														
Clutch		Gearset					Universals		Rear Axle									Brakes				Steering Gear		Wheels								
Make	Type	Make	Model	Type	Location	No. For. Spds.	Make	Type	Make	Model	Type of Axle or Jackshaft	Propulsion Taken By	Torque Taken By	Final Drive	Gear Reduct.			Foot Type and Location	Hand Type and Location	Springs Rear Type	Front Axle Make	Make	Type	Make	Type	Frame Making							MAKE AND MODEL
Own...	MDD.	Own...	.....	SG...	SU...	3	Own...	F....	Own...	.....	F....	SP...	SP...	IG...	6.86			Int-RW	Int-RW	½ Ell...	Own...	Own...	W&W.	Own...	Art...	Parish...							International..... 21
Own...	MDD.	Own...	.....	SG...	SU...	3	Own...	F....	Own...	.....	F....	SP...	SP...	IG...	7.91			Int-RW	Int-RW	½ Ell...	Own...	Own...	W&W.	Own...	Art...	Parish...							International..... 31
Own...	MDD.	Own...	.....	SG...	SU...	4	Own...	F....	Own...	.....	F....	SP...	SP...	IG...	8.96			Int-RW	Int-RW	½ Ell...	Own...	Own...	W&W.	Own...	Art...	Parish...							International..... 41
Own...	MDD.	Own...	.....	SG...	SU...	4	Own...	F....	Own...	.....	F....	SP...	SP...	IG...	.....			Int-RW	Int-RW	½ Ell...	Own...	Own...	W&W.	Own...	Art...	Parish...							International..... 61
Own...	MDD.	Own...	.....	SG...	SU...	4	Own...	F....	Own...	.....	F....	SP...	SP...	IG...	10.98			Int-RW	Int-RW	½ Ell...	Own...	Own...	W&W.	Own...	Art...	Parish...							International..... 101
B-L...	MDD.	B-L...	30	SG...	Un.E..	3	Snead.	F....	Timk..	5311	½ F...	SP...	SP...	SP...	4.90			Int-RW	Int-RW	½ Ell...	Timk..	Gemm	W&W.	Bimel..	Art...	Own...							K-Z.....
B-L...	MDD.	B-L...	30	SG...	Un.E..	3	Snead.	F....	Timk..	6352	½ F...	RR...	SP...	W...	7.20			Int-RW	Int-RW	½ Ell...	Timk..	Gemm	W&W.	StM...	Art...	Own...							K-Z.....
B-L...	MDD.	B-L...	30	SG...	Un.E..	3	Snead.	F....	Timk..	6460	½ F...	RR...	SP...	W...	8.75			Int-RW	Int-RW	½ Ell...	Timk..	Gemm	W&W.	StM...	Art...	Own...							K-Z.....
B-L...	MDD.	B-L...	35	SG...	SU....	4	Snead.	F....	Timk..	6560	F....	RR...	SP...	W...	9.25			Int-RW	Int-RW	½ Ell...	Timk..	Gemm	W&W.	StM...	Art...	Own...							K-Z.....
B-L...	MDD.	B-L...	50	SG...	SU....	4	Snead.	F....	Timk..	6660	F....	RR...	SP...	W...	10.33			Int-RW	Int-RW	½ Ell...	Timk..	Lav...	S&N..	StM...	Art...	Own...							K-Z.....
B-L...	MDD.	B-L...	60	SG...	SU....	4	Snead.	F....	Timk..	6760	F....	RR...	SP...	W...	11.66			Int-RW	Int-RW	½ Ell...	Timk..	Lav...	S&N..	Smith..	CS...	Own...							K-Z.....
M&E.	MDD.	Camp.	D21..	CM..	Un.E..	3	Blood.	M....	Flint..	BA–10	F....	SP...	SP...	SP...	5.50			Ext-RW	Int-RW	½ Ell...	Flint..	Lav...											Kalamazoo..... T
Fuller.	MDD.	Fuller.	G7...	SG...	SU....	4	Blood.	M....	Wise...	800H..	½ F...	RR...		W...	8.25			Int-RW	Int-RW	½ Ell...	Shul..	Ross.	S&N..	Bimel..	Art...	Own...							Kalamazoo..... G
Fuller.	MDD.	Fuller.	G7...	SG...	SU....	4	Blood.	M....	Sheld..	W103	½ F...	RR...		W...	8.66			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..		Art...	Own...							Kalamazoo..... LG
Fuller.	MDD.	Fuller.	G7...	SG...	SU....	4	Blood.	M....	Sheld..	W21	½ F...	RR...		W...	8.75			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..	Smith..	.....	Own...							Kalamazoo..... NH
Fuller.	MDD.	Fuller.	H....	SG...	SU....	4	Blood.	M....	Sheld..	W21	½ F...	RR...		W...	9.50			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..	Smith..	.....	Own...							Kalamazoo..... HD
Fuller.	MDD.	Fuller.	H....	SG...	SU....	4	Blood.	M....	Sheld..	W30	½ F...	RR...		W...	10.25			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..	Smith..	.....	Own...							Kalamazoo..... SK
Fuller.	MDD.	Fuller.	H....	SG...	SU....	4	Blood.	M....	Sheld..	W51	½ F...	RR...		W...	13.00			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..	Smith..	CS...	Own...							Kalamazoo..... OK
Fuller.	MDD.	Fuller.	J....	SG...	Un.E..	3	M&E.	F....	Colum	52008		SP...	SP...	SB..	7.70			Ext-RW	Int-RW	½ Ell...	Sheld..	Lav...	S&N..	E&O...	Art...	Sharon							Kearns..... H
Fuller.	MDD.	Fuller.	LTU5.	SG...	Un.E..	3	M&E.	M....	Sheld..	W103	½ F...	SP...	SP...	W...	7.75			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..	E&O...	Art...	Sharon							Kearns..... N1
B&B..	SP...	Covert	RA3..	SG...	SU....	3	Peters.	M....	Own...	.....	½ F...	RR...	SP...	W...	8.50			Int-RW	Int-RW	½ Ell...	Own...	Gemm	W&W.	StM...	Art...	Smith..							Kelly-S..... K340
B&B..	SP...	Covert	RA4..	SG...	SU....	4	Peters.	M....	Own...	.....	½ F...	RR...	SP...	W...	11.66			Int-RW	Int-RW	½ Ell...	Own...	Gemm	W&W.	StM...	Art...	Smith..							Kelly-S..... K38
Own...	Cone..	Covert	O....	SG...	Un.J...		Own...	M....	Own...	.....	½ F...	RR...	SP...	Ch..	12.00			Int-RW	Int-RW	½ Ell...	Own...	Gemm	W&W.	StM...	Art...	Smith..							Kelly-S..... K35
B&B..	SP...	Covert	SA4..	SG...	SU....	4	Peters.	M....	Eaton.	607–5	½ F...	RR...	SP...	W...	10.25			Int-RW	Int-RW	½ Ell...	Own...	Gemm	W&W.	Smith..	CS...	Rals...							Kelly-S..... K42
B&B..	SP...	Covert	K....	SG...	Un.J...	3	Own...	F....	Own...	.....	½ F...	RR...	SP...	Ch..	10.48			Int-RW	Int-RW	½ Ell...	Own...	Gemm	W&W.	StM...	Art...	Smith..							Kelly-S..... K40
B&B..	SP...	Covert	SA4..	SG...	SU....	4	Peters.	M....	Clark	.....	½ F...	RR...	SP...	IG..	10.00			Ext-DS	Int-RW	½ Ell...	Own...	Gemm	W&W.	Clark..	CS...	Rals...							Kelly-S..... K41
B&B..	SP...	Covert	TR4..	SG...		4	Own...	F....	Own...	.....	½ F...	RR...	SP...	Ch..	12.24			Int-RW	Int-RW	½ Ell...	Own...	Gemm	W&W.	Smith..	CS...	Smith.							Kelly-S..... K50
B&B..	SP...	Covert	TA4..	SG...	SU....	4	Peters.		Clark	.....	½ F...	RR...	SP...	IG..	11.66			Ext-DS	Int-RW	½ Ell...	Own...	Gemm	W&W.	Clark..	CS...	Rals...							Kelly-S..... K61
Fuller.	MDD.	Fuller.	TU¾.	SG...	Un.E..	3	Spicer.	M....	Russel	6000I	F....	SP...	SP...	IG..	8.80			Int-RW	Int-RW	½ Ell...	Torb..	Ross.	W&W.	Hoopes.	Art...	Own...							Keystone.....
B-L...	MDD.	B-L...	35	SG...	SU....	4	Peters.	M....	Sheld..	W103	½ F...	RR...	SP...	W...	6.50			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..	Smith..	CS...	Parish.							Kimball..... AB
B-L...	MDD.	B-L...	50	SG...	SU....	4	Peters.	M....	Sheld..	W21	½ F...	RR...	SP...	W...	7.75			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..	Smith..	CS...	Parish.							Kimball..... AC
B-L...	MDD.	B-L...	60	SG...	SU....	8	Peters.	M....	Timk..	6666	F....	RR...	SP...	W...	8.75			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Parish.							Kimball..... AM
B-L...	MDD.	B-L...	60	SG...	SU....	8	Peters.	M....	Timk..	6760	F....	RR...	SP...	W...	.....			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Parish.							Kimball..... AF
Warn.	MDD.	Warn.	C38..	SG...	Un.E..	3	Spicer.	M....	Sheld..	W1501	½ F...	SP...	SP...	W...	7.80			Int-RW	Int-RW	½ Ell...	.....		S&N..	Prud...	Art...	Smith.							‡‡Kissel.....
Warn.	MDD.	Warn.	C30–4.	SG...	SU....	4	Spicer.	M....	Timk..	6560	F....	SP...	SP...	W...	8.50			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Prud...	Art...	Smith.							‡‡Kissel.....
Warn.	MDD.	Warn.	C30–4.	SG...	SU....	4	Spicer.	M....	Sheld..	W31	½ F...	SP...	SP...	W...	11.75			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..	Smith..	CS...	Smith.							‡‡Kissel.....
B-L...	MDD.	B-L...	35	SG...	Un.E..	4	Spicer.	M....	Timk..	6352	½ F...	RR...	SP...	W...	6.20			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Own...							Kleiber.....
B-L...	MDD.	B-L...	50	SG...	SU....	4	Spicer.	M....	Timk..	6460	½ F...	RR...	SP...	W...	7.75			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Own...							Kleiber.....
B-L...	MDD.	B-L...	60	SG...	SU....	4	Spicer.	M....	Timk..	6560	½ F...	RR...	SP...	W...	8.50			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Own...							Kleiber.....
B-L...	MDD.	B-L...	60	SG...	SU....	4	Spicer.	M....	Timk..	6666	F....	RR...	SP...	W...	10.33			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Own...							Kleiber.....
Mech.	MDD.	Mech.	LU...	SG...	Un.E..	3	M&E.	M....	Own...	.....	½ F...	SP...	SP...	W...	7.25			Int-RW	Int-RW	½ Ell...	Shul..	Lav...	S&N..	Jones..	Art...	Own...							‡‡Koehler..... D
B-L...	MDD.	B-L...	35	SG...	SU....	4	Spicer.	M....	Timk..	6560	F....	SP...	SP...	W...	9.25			Int-RW	Int-RW	½ Ell...	Shul..	Lav...	S&N..	Wayne.	Art...	Own...							‡‡Koehler..... M
B-L...	MDD.	B-L...	55	SG...	SU....	4	Spicer.	M....	Timk..	6660	F....	RR...	SP...	W...	10.33			Int-RW	Int-RW	½ Ell...	Shul..	Lav...	S&N..	Dayton	CS...	Own...							‡‡Koehler..... F
B-L...	MDD.	B-L...	30	SG...	Un.E..	3	Spicer.	M....	Timk..	6250	½ F...	RR...	SP...	W...	6.25			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	W&N.	Smith..	CS...	P&B...							Krebs..... 24
B-L...	MDD.	B-L...	35	SG...	SU....	4	Spicer.	M....	Timk..	6460	½ F...	RR...	SP...	W...	8.75			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	W&N.	Smith..	CS...	P&B...							Krebs..... 45
B-L...	MDD.	B-L...	55	SG...	SU....	4	Spicer.	M....	Timk..	6560	F....	RR...	SP...	W...	9.25			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	W&N.	Smith..	CS...	P&B...							Krebs..... 75
B-L...	MDD.	B-L...	55	SG...	SU....	4	Spicer.	M....	Timk..	6660	F....	RR...	SP...	W...	10.33			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	W&N.	Smith..	CS...	P&B...							Krebs..... 110
B-L...	MDD.	B-L...	60	SG...	SU....	4	Spicer.	M....	Timk..	6660	F....	RR...	SP...	W...	10.33			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	W&N.	Smith..	CS...	P&B...							Krebs..... 110SP
B-L...	MDD.	B-L...	60	SG...	SU....	4	Spicer.	M....	Timk..	6760	F....	RR...	SP...	W...	11.66			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	W&N.	Smith..	CS...	P&B...							Krebs..... 140
B&B..	SP...	Detr...	H....	SG...	SU....	4	Baker.	M....	Russel	S		SP...	SP...	IG..	8.80			Ext-RW	Int-RW	½ Ell...	Shul..	Lav...	PL...	Bimel..	Art...	Clapper							L.M.C..... 2-20
B-L...	MDD.	B-L...	51	SG...	SU....	4	Peters.	M....	Timk..	6560	F....	SP...	SP...	W...	9.25			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	W&S.	Hoopes.	Art...	P&B...							Lange..... E
B-L...	MDD.	B-L...	30	SG...	Un.E..	3	Snead.	F....	Salis..	1480E	½ F...	SP...	SP...	SP...	5.75			Ext-RW	Int-RW	½ Ell...	Salis..	Gemm	W&W.	Indest..	PS...	Savage							Larrabee..... X2
B-L...	MDD.	B-L...	30	SG...	Un.E..	3	Snead.	F....	Sheld..	W150	½ F...	SP...	SP...	W...	7.75			Ext-RW	Ext-RW	½ Ell...	Sheld..	Gemm	W&W.	Smith..	CS...	Savage							Larrabee..... J4
B-L...	MDD.	B-L...	51	SG...	SU....	4	Snead.	F....	Sheld..	W22	½ F...	SP...	SP...	W...	8.75			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..	Smith..	CS...	Savage							Larrabee..... K5
B-L...	MDD.	B-L...	55	SG...	SU....	4	Snead.	F....	Sheld..	W31	½ F...	SP...	SP...	W...	10.33			Int-RW	Int-RW	½ Ell...	Sheld..	Ross.	S&N..	Smith..	CS...	Savage							Larrabee..... L4
B&B..	SP...	G-L...	.....	SG...	Un.E..	3	Spicer.	M....	Wise...	.....	½ F...	SP...	SP...	W...	7.75			Int-RW	Int-RW	½ Ell...	Colum	Lav...	S&N..	Bimel..	Art...	Own...							Luedinghaus..... C
B&B..	SP...	Detr...	.....	SG...	Un.E..		Spicer.	M....	Wise...	.....	½ F...	RR...	SP...	W...	.....			Int-RW	Int-RW	½ Ell...	Shul..	Lav...	S&N..	.....	Art...	.....							Luedinghaus..... W
B&B..	SP...	Detr...	.....	SG...	Un.E..		Spicer.	M....	Wise...	.....	½ F...	RR...	SP...	W...	8.66			Int-RW	Int-RW	½ Ell...	Shul..	Lav...	S&N..	.....	Art...	.....							Luedinghaus..... K
B-L...	MDD.	B-L...	35	SG...	Un.E..	4	Spicer.	M....	Timk..	6460	½ F...	RR...	SP...	W...	8.75			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Dayton	CS...	Parish.							Maccar..... L2
B-L...	MDD.	B-L...	35	SG...	Un.E..	4	Spicer.	M....	Timk..	6560	F....	RR...	SP...	W...	8.50			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Dayton	CS...	Parish.							Maccar..... HA
B-L...	MDD.	B-L...	50	SG...	Un.E..	4	Spicer.	M....	Timk..	6560	F....	RR...	SP...	W...	8.50			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Dayton	CS...	Parish.							Maccar..... H2
B-L...	MDD.	B-L...	55	SG...	Un.E..	4	Spicer.	M....	Timk..	6666	F....	RR...	SP...	W...	8.75			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Dayton	CS...	Parish.							Maccar..... M3
B-L...	MDD.	B-L...	60	SG...	SU....	4	Spicer.	M....	Timk..	6760	F....	RR...	SP...	W...	10.25			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Parish.							Maccar..... G
B-L...	MDD.	B-L...	.....	SG...	Un.E..	4	Own...	M....	Own...	.....		SP...			17.50			Ext-RW	Ext-RW	½ Ell...	Own...	Own...	.....	Own...	CS...	Own...							‡‡MacDonald..... A
Own...	MDD.	Own...	.....	SG...	Un.E..	4	Spicer.	M....	Own...	.....	½ F...	RR...		Ch..	6.99			Ext-DS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AB
Own...	MDD.	Own...	.....	SG...	Un.E..	4	Spicer.	M....	Own...	.....	F....	SP...	SP...	DR..	7.66			Int-RW	Ext-DS	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AB
Own...	MDD.	Own...	.....	SG...	Un.E..	4	Spicer.	M....	Own...	.....	½ F...	RR...		Ch..	6.99			Ext-DS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AB
Own...	MDD.	Own...	.....	SG...	Un.E..	4	Spicer.	M....	Own...	.....	F....	SP...	SP...	DR..	7.66			Int-RW	Ext-DS	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AB
Own...	MDD.	Own...	.....	SG...	Un.E..	4	Spicer.	M....	Own...	.....	F....	RR...		Ch..	8.98			Ext-DS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AB
Own...	MDD.	Own...	.....	SG...	Un.E..	4	Spicer.	M....	Own...	.....	F....	SP...	SP...	DR..	9.25			Int-RW	Ext-DS	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AB
Own...	SP...	Own...	.....	SG...	Un.J...	4	Spicer.	M....	Own...	.....	½ F...	RR...	RR...	Ch..	7.54			Ext-JS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AC
Own...	SP...	Own...	.....	SG...	Un.J...	4	Spicer.	M....	Own...	.....	½ F...	RR...	RR...	Ch..	8.31			Ext-JS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AC
Own...	MDD.	Own...	.....	SG...	Un.E..	4	Spicer.	M....	Own...	.....	½ F...	RR...	RR...	Ch..	10.53			Ext-DS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AB
Own...	SP...	Own...	.....	SG...	Un.J...	4	Spicer.	M....	Own...	.....	½ F...	RR...	RR...	Ch..	8.95			Ext-JS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AC
Own...	SP...	Own...	.....	SG...	Un.J...	4	Spicer.	M....	Own...	.....	½ F...	RR...	RR...	Ch..	9.69			Ext-JS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AC
Own...	SP...	Own...	.....	SG...	Un.J...	4	Spicer.	M....	Own...	.....	½ F...	RR...	RR...	Ch..	9.69			Ext-JS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AC
Own...	SP...	Own...	.....	SG...	Un.J...	4	Spicer.	M....	Own...	.....	½ F...	RR...	RR...	Ch..	10.50			Ext-JS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AC
Own...	SP...	Own...	.....	SG...	Un.J...	4	Spicer.	M....	Own...	.....	½ F...	RR...	RR...	Ch..	11.58			Ext-JS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AC
Own...	SP...	Own...	.....	SG...	Un.J...	4	Spicer.	M....	Own...	.....	½ F...	RR...	RR...	Ch..	12.92			Ext-JS	Int-RW	½ Ell...	Own...	Own...	W&W.	Schwa.	Art...	Own...							Mack..... AC
Hoosier	MDD.	Warn.	.....	SG...	SU....	3	Spicer.	M....	Flint..	Own...	F....	SP...	SP...	SP...	4.90			Ext-RW	Int-RW	½ Ell...	Flint..	Lav...	S&N..	.....	Art...	.....							Mason.....
Fuller.	MDD.	Fuller.	LTU8.	SG...	Un.E..	3	Spicer.	M....	Timk..	6460	½ F...	SP...	SP...	W...	7.75			Int-RW	Int-RW	½ Ell...	Shul..	Ross.	S&N..	Prud...	Art...	P&B...							‡‡Master..... JW
Fuller.	MDD.	Fuller.	GU7..	SG...		4	Spicer.	M....	Walk..	25A	F....	SP...	SP...	IG..	8.49			Int-DS	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Clark..	CS...	P&B...							‡‡Master..... D
B-L...	MDD.	B-L...	60	SG...	SU....	4	Spicer.	M....	Timk..	6660	F....	RR...	SP...	W...	10.33			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	P&B...							‡‡Master..... A
B-L...	MDD.	B-L...	60	SG...	SU....	4	Spicer.	M....	Timk..	6760	F....	RR...	SP...	W...	11.66			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	P&B...							‡‡Master..... B
Own...	Cone..	Own...	.....	SG...	Un.E..	3	Therm	F....	Timk..	.....	½ F...	SP...	SP...	W...	7.25			Int-RW	Int-RW	½ Ell...	Own...	Own...	W&S.	Own...	Art...	Own...							Maxwell.....
	MDD.		.....	SG...	Un.E..	3	Spicer.	M....	Timk..	.....				SP...	.....			Int-RW	Int-RW	½ Ell...	Own...	Ross.	W&W.	.....	Art...	.....							Menominee.....
Fuller.	MDD.	Cotta	AU...	CM..	Un.E..	4	Spicer.	M....	Timk..	.....	½ F...	RR...	SP...	W...	8.66			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	W&W.	.....	Art...	.....							Menominee..... D
B&B..	SP...	Cotta	.....	CM..	SU....	4	Spicer.	M....	Timk..	.....	F....	RR...	SP...	W...	.....			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	W&W.	Smith..	CS...	Own...							Menominee..... J
B-L...	MDD.	B-L...	30	SG...	Un.E..	3	Peters.	M....	Timk..	6461	½ F...	RR...	SP...	W...	7.00			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Smith.							Moreland..... BX
Own...	MDD.	Own...	.....	SG...	SU....	4	Peters.	M....	Timk..	6461	½ F...	RR...	SP...	W...	7.00			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Smith.							Moreland..... EX
Own...	MDD.	Own...	.....	SG...	SU....	5	Own...	M....	Timk..	6560	F....	RR...	SP...	W...	6.80			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Smith.							Moreland..... AX
Own...	MDD.	Own...	.....	SG...	SU....	5	Own...	M....	Timk..	6666	F....	RR...	SP...	W...	8.75			Int-RW	Int-RW	½ Ell...	Timk..	Ross.	S&N..	Smith..	CS...	Smith.							Moreland..... RX
B&B..	SP...	Detr...	C....	SG...	Un.E..	3	Own...	M....	Clark	D1		SP...	SP...	IG..	6.80			Ex–RW	Ext-DS	½ Ell...	Own...	Lav...	S&N..	.....	Art...	Smith.							Nash..... 2018
B&B..	SP...	Own...	.....	CM..	SU....	4	Own...	M....	Own...	.....		SP...	SP...	IG..	8.50			Int-RW	Int-RW	½ Ell...	Own...	Lav...	S&N..	Clark..	CS...	Smith.							Nash..... 4017F
B&B..	SP...	Detr...	M....	SG...	SU....	4	Own...	M....	Clark.	2D		SP...	SP...	IG..	9.00			Ext-RW	Ext-DS	½ Ell...	Own...	Lav...	S&N..	.....	Art...	Smith.							Nash..... 3018
B&B..	SP...	Detr...	.....	SG...	SU....	4	Own...	M....	Clark.	2D		SP...	SP...	IG..	10.20			Ext-RW	Ext-DS	½ Ell...	Own...	.....	.....	.....	.....	Smith.							Nash..... 5018

American Gasoline Truck

MAKE AND MODEL	GENERAL					ENGINE													ELECTRICAL SYSTEM				
	Tons Capacity	Standard Wheelbase (Ins.)	Standard Tire Size and Type: Front	Standard Tire Size and Type: Rear	Chassis Weight (Lbs.)	Make	No. of Cylinders Bore and Stroke	Point Suspension	Cylinder Head	No. of Cyls. per C's'g.	Valve Arrangement	Water Circulation	Oiling System	Fuel System: Carbureter Make	Fuel System: Fuel Feed	Governor: Make	Governor: Type	Max. Gov. Speeds: In R. P. M. of Engine	Max. Gov. Speeds: In M. P. H. of Truck	Ignition System: Make	Ignition System: Current Sources	Generator Make	Starter Make	Voltage
Nelson-Le Moon....G1	1	140	P-34x5	P-34x5	....	Cont..	4-3½x5	3	Det..	4	"L"H.	Pump.	Fl.Pr.	Strom..	Grav..	.....	.....	.....	.....	Bosch..	Mag..	Bosch..	.....	6-8
Nelson-Le Moon....G2	1½	.....	S-36x4	S-36x6	3900	Cont..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Grav..	Pharo..	Hydr..	1100	20	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
Nelson-Le Moon....G3	2½	.....	S-36x4	S-36x7	4400	Cont..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Grav..	Pharo..	Hydr..	1100	18	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
Nelson-Le Moon....G4	3½	.....	S-36x5	S-36x5d	6000	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Strom..	Grav..	Pharo..	Hydr..	1100	16	Bosch..	Mag..	Bosch*.	Bosch*.	6-8
Nelson-Le Moon....G5	5	.....	S-36x6	S-40x6d	8000	Cont..	4-4½x6	3	Det..	2	"L"H.	Pump.	Press..	Strom..	Grav..	.....	.....	1100	10	Bosch..	Mag..	Bosch*.	Opt.*.	.....
Netco.....DK	2	170	S-*36x4	S-*36x4	5200	Cont..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Zenith..	Vac..	Pharo..	Hydr..	.....	.....	Eisem..	Mag..	West*..	West*.	6-8
Netco.....HL	2½	170	S-*36x4	S-*36x8	5750	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Zenith..	Vac..	Pharo..	Hydr..	.....	.....	Eisem..	Mag..	West*.	West*.	6-8
Niles.....H	2½	140	S-*36x4	S-*36x7	5200	Buda..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Grav..	Pierce..	Cent..	.....	18	Eisem..	Mag..	Eisem*.	Opt.*.	6-8
Noble.....A21	1½	130	P-34x5	P-34x5	3710	Buda..	4-3½x5½	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	.....	.....	.....	.....	Eisem..	Mag..	Bosch..	Bosch..	6-8
Noble.....B31	1½–2	156	S-36x4	S-36x7	4700	Buda..	4-3½x5¼	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pierce..	Cent..	1290	18	Eisem..	Mag..	Bosch..	Bosch..	6-8
Noble.....D51	2½–3½	162	S-36x4	S-36x8	5700	Buda..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pierce..	Cent..	1080	15	Eisem..	Mag..	Bosch*.	Bosch*.	6-8
Noble.....E71	3½–5	166	S-36x5	S-36x10	7120	Buda..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pierce..	Cent..	972	12	Eisem..	Mag..	Bosch*.	Bosch*.	6-8
Ogden.....A2	1	125	P-34x5	P-34x5	3100	Cont..	4-3½x5	3	Int..	4	"L"H.	Th-S..	Spl..	Strom..	Vac..	.....	.....	.....	.....	Split..	Mag..	Remy*.	Remy*.	6-8
Ogden.....D	1½	132	S-36x4	S-36x6	3400	Cont..	4-3½x5	3	Int..	4	"L"H.	Th-S..	Spl..	Strom..	Grav..	Pierce..	Cent..	.....	18	Split..	Mag..	Remy*.	Remy*.	6-8
Ogden.....E	2½	153	S-36x5....	S-36x7....	4900	Cont..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Spl..	Strom..	Grav..	Pierce..	Cent..	.....	.....	Split..	Mag..	Vesta*.	Opt.*.	.....
Old Reliable.....B	2½	160	S-34x4	S-36x8	.....	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pharo..	Cent..	1200	15	Bosch..	Mag..	Vesta*.	.....	6-8
Old Reliable.....C	3½	167	S-*34x5	S-*36x10d	.....	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pharo..	Cent..	1200	15	Bosch..	Mag..	Vesta*.	.....	6-8
Old Reliable.....D	5	165	S-*36x6	S-*40x12d	.....	Wisc..	4-4½x6	3	Det..	2	"L"H.	Pump.	Press..	Strom..	Vac..	Pharo..	Cent..	1293	15	Apollo..	Mag..	Vesta*.	.....	6-8
Old Reliable.....K	7½	136	S-*36x6	S-*40x14d	.....	Wauk..	4-4½x6½	3	Int..	2	"L"H.	Pump.	Press..	Strom..	Grav..	Wauk..	Cent..	960	11	Bosch..	Mag..	Vesta*.	.....	6-8
Oldsmobile.....T	1	128	P-35x5	P-35x5	2320	Own..	4-3½x5¼	4	Det..	4	IH....	Pump.	Sp.Pr.	Zenith..	Vac..	.....	.....	.....	.....	Remy..	Bat..	A-L....	A-L....	6-8
Olympic.....A	2½	164	C-36x4	S-36x8	5220	Buda..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Vac..	Duplex.	Cent..	1200	18	Eisem..	Mag..	.....	.....	.....
Oneida.....B	1½–2	144	S-36x3½	S-36x7	4910	Hink..	4-4 x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Hink..	Cent..	1600	25	West..	Mag..	West..	West..	6-8
Oneida.....C	2½	160	S-36x4	S-36x7	5700	Hink..	4-4 x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Hink..	Cent..	1600	22	West..	Mag..	West..	West..	6-8
Oneida.....D	3½	170	S-36x5	S-36x10	7700	Hink..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Hink..	Cent..	1450	18	West..	Mag..	West..	West..	6-8
Oshkosh.....A	2	130	P-36x6	P-36x6	4200	H-S..	4-3½x5	3	Det..	4	"L"H.	Th-S..	Sp.Pr.	Zenith..	Vac..	Duplex.	Cent..	.....	22	N.E....	Bat..	N.E....	N.E....	6-8
Oshkosh.....B	2½	146	P-40x8	P-40x8	5400	Herc..	4-4 x5¼	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Duplex.	Cent..	1550	20	N.E....	Bat..	N.E....	N.E....	6-8
Overland.....(Penn)	1	122	P-31x4	P-32x4½	2075	Own..	4-5½x4	3	Det..	4	"L"H.	Th-S..	Spl..	Tillot..	Grav..	.....	.....	.....	.....	A.L....	Bat..	A.L....	.....	6-8
Overland.....4D (Ohio)	½	100	P-30x3½	P-30x3½	1456	Own..	4-3½x4	4	Det..	4	"L"H.	Th-S..	Spl..	Tillot..	Grav..	.....	.....	.....	.....	Conn...	Bat..	A.L....	A.L....	6-8
Packard.....E	2–3	144	S-36x4	S-36x7d	5250	Own..	4-4 3/16x5½	3	Int..	4	"L"H.	Pump.	Press..	Own..	Press.	Own..	Cent..	1000	15	Bijur..	.....	Bijur..	Bijur..	6-8
Packard.....EX	2½	144	P-36x6	P-40x8	5350	Own..	4-4 3/16x5½	3	Int..	4	"L"H.	Pump.	Press..	Own..	Press.	Own..	Cent..	1800	27	Bijur..	.....	Bijur..	Bijur..	12-16
Packard.....E	3–4	156	S-36x5	S-36x5d	7350	Own..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Press..	Own..	Press.	Own..	Cent..	1000	12	Bijur..	.....	Bijur..	Bijur..	6-8
Packard.....E	5–7	156	S-36x6	S-40x6d	9050	Own..	4-5 x5½	3	Int..	4	"L"H.	Pump.	Press..	Own..	Press.	Own..	Cent..	1000	11	Bijur..	.....	Bijur..	Bijur..	6-8
Paige.....52-19	1½–2	140	S-34x3½	S-34x5	4200	Hink..	4-4 x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Hink..	Cent..	1550	20	Bosch..	Mag..	Remy*.	Remy*.	6-8
Paige.....54-20	2½–3	150	S-34x4	S-34x8	5200	Hink..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Duplex.	Cent..	1500	17	Bosch..	Mag..	Remy*.	Remy*.	6-8
Paige.....51-18	3½–4	160	S-36x5	S-36x5d	7000	Hink..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Duplex.	Cent..	1450	15	Bosch..	Mag..	Remy*.	Remy*.	6-8
Parker.....B23	1	130	P-32x4½	P-32x4½	2600	Buda..	4-3½x5¼	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Vac..	.....	.....	.....	.....	West..	Bat..	West..	West..	6-8
Parker.....E23	1½	140	S-34x3½	S-34x5	3600	Wisc..	4-4 x5	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Vac..	.....	.....	.....	.....	West..	Bat..	West..	West..	6-8
Parker.....G1	2½	150	S-34x4	S-36x8	5600	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pierce..	Cent..	1450	20	Eisem..	Mag..	West*.	West*.	6-8
Parker.....J20	3½	160	S-36x5	S-40x5	6550	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	Pierce..	Cent..	1180	16	Eisem..	Mag..	West*.	West*.	6-8
Parker.....M20	5	160	S-36x6	S-40x6d	8400	Wisc..	4-5 x6	3	Det..	2	"L"H.	Pump.	Press..	Strom..	Vac..	Duplex.	Cent..	1050	12	Eisem..	Mag..	West*.	West*.	6-8
Patriot.....Revere	1	128	P-35x5	P-35x5	2800	Cont..	4-3½x5	3	Int..	4	"L"H.	Th-S..	Sp.Pr.	Strom..	Vac..	.....	.....	.....	.....	A-K....	Bat..	Bijur..	Bijur..	.....
Patriot.....Lincoln-Sp	2	140	S-*34x4	S-*34x6	4200	Hink..	4-4 x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Hink..	Cent..	.....	.....	Split..	Mag..	Bijur*.	Bijur*.	.....
Patriot..Washington-Sp	3	156	S-*36x5	S-*36x8	5200	Hink..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	Hink..	Cent..	.....	.....	Split..	Mag..	Bijur*.	Bijur*.	.....
Pierce-Arrow.....X5	2	150	S-*36x4	S-*36x4d	6000	Own..	4-4 x5½	3	Det..	4	"T"H.	Pump.	Fl.Pr..	Strom..	Press.	Own..	Cent..	1600	18	Delco..	Bat..	Delco..	Delco..	6-8
Pierce-Arrow.....W2	3½	162	S-*36x5	S-*36x5d	8300	Own..	4-4½x6½	3	Det..	4	"T"H.	Pump.	Fl.Pr..	Strom..	Press.	Own..	Cent..	1200	16	Delco..	Bat..	Delco..	Delco..	6-8
Pierce-Arrow.....R10	5	168	S-*36x5	S-*40x6d	9300	Own..	4-4½x6½	3	Det..	4	"T"H.	Pump.	Fl.Pr..	Strom..	Press.	Own..	Cent..	1200	14	Delco..	Bat..	Delco..	Delco..	6-8
Pittsburgher.....A	2	160	S-*36x5	S-*36x7d	5000	Midw..	4-3½x5	3	Det..	2	IH....	Pump.	Press..	Strom..	Vac..	.....	.....	.....	.....	Bosch..	Mag..	.....	.....	.....
Pittsburgher.....C	2½–3	162	S-*36x5	S-*36x8	6400	Midw..	4-4½x5½	3	Det..	2	IH....	Pump.	Press..	Strom..	Vac..	McC..	Suc..	1600	18	Bosch..	Mag..	.....	.....	.....
‡‡Power.....F	2	140	P-*36x6	P-*40x8	.....	Hink..	4-4½x5	3	Det..	2	"L"H.	Pump.	Press..	Zenith..	Grav.	Hink..	Cent..	1600	22	Eisem..	Mag..	West*.	West*.	6-8
‡‡Power.....C	3½	160	C-36x5	C-40x10	.....	Hink..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Press..	Zenith..	Vac..	Hink..	Cent..	1600	14	Eisem..	Mag..	West..	West..	6-8
Rainier.....R31	¾	125	P-35x5	P-35x5	2500	Cont..	4-3½x5	3	Int..	4	"L"H.	Th-S..	Sp.Pr.	Zenith..	Vac..	Mon..	Suc..	1530	25	Eisem..	Mag..	.....	.....	.....
Rainier.....R29	1	133	S-34x3½	S-34x4	2700	Cont..	4-3½x5	3	Int..	4	"L"H.	Th-S..	Sp.Pr.	Zenith..	Vac..	Mon..	Suc..	1335	20	Eisem..	Mag..	.....	.....	.....
Rainier.....R36	1½	147	S-34x3½	S-34x5	3900	Cont..	4-3½x5	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Zenith..	Vac..	Pierce.	Cent..	1380	18	Eisem..	Mag..	.....	.....	.....
Rainier.....R28	2–2½	157	S-34x4	S-34x7	4900	Cont..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Zenith..	Vac..	Pierce.	Cent..	1370	16	Eisem..	Mag..	.....	.....	.....
Rainier.....R20	2½–3	165	S-36x4	S-36x8	5500	Cont..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Fl.Pr..	Zenith..	Vac..	Pierce.	Cent..	1270	16	Eisem..	Mag..	.....	.....	.....
Rainier.....R25	3½–5	172	S-36x5	S-36x5d	8000	Cont..	4-4½x5½	3	Det..	2	"L"H.	Pump.	Fl.Pr..	Zenith..	Vac..	Pierce.	Cent..	1450	15	Eisem..	Mag..	.....	.....	.....
Rainier.....R27	6	170	S-36x6	S-40x6d	9000	Cont..	4-4½x6	3	Det..	2	"L"H.	Pump.	Press..	Zenith..	Vac..	Cont..	Cent..	1700	15	Eisem..	Mag..	.....	.....	.....
Ranger.....TK	1½	136	S-36x6	S-38x7	3700	Wisc..	4-3½x5	3	Int..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Suc..	1000	16	Split..	Mag..	.....	.....	.....
Reo.....F	1½	128	P-34x4½	P-34x4½	2615	Own..	4-4¼x4½	4	Int..	2	"F"H.	Pump.	Sp.Pr.	John..	Grav.	.....	.....	.....	.....	N.E....	Bat..	N.E....	N.E....	6-8
Republic.....75	¾	124	P-33x5	P-33x5	.....	Lycom	4-3½x5	3	Det..	4	"L"H.	Th-S..	Sp.Pr.	Strom..	Vac..	.....	.....	1900	35	A.L....	Bat..	A.L....	A.L....	6-8
Republic.....10E	1	124	P-34x5	P-34x5	.....	Cont..	4-3½x5	3	Int..	4	"L"H.	Th-S..	Sp.Pr.	Strom..	Vac..	.....	.....	1510	25	Bosch..	Mag..	Delco..	Delco..	6-8
Republic.....11X	1½	144	S-34x3½	S-34x6	.....	Cont..	4-3½x5	3	Int..	4	"L"H.	Th-S..	Sp.Pr.	Strom..	Grav.	.....	.....	1200	15	Bosch..	Mag..	.....	.....	.....
Republic.....19W	2½	154	S-36x4	S-36x7	.....	Wauk..	4-4 x5½	3	Det..	2	"L"H.	Pump.	Press..	Strom..	Grav.	Wauk..	Cent..	980	12	Bosch..	Mag..	Opt.*.	Opt.*.	.....
Republic.....19	2½	144	S-36x4	S-36x7	.....	Cont..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Strom..	Grav.	Pharo.	Hydr.	894	12	Bosch..	Mag..	.....	.....	.....
Republic.....20	3½	165	S-36x5	S-36x5d	.....	Cont..	4-4½x5½	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Strom..	Grav.	Pharo.	Hydr.	966	12	Bosch..	Mag..	Opt.*.	Opt.*.	.....
Riddle.....223	¾	148	P-33x5	P-33x5	3200	Cont..	6-3½x5	3	Det..	6	"L"H.	Pump.	Fl.Pr..	Strom..	Vac..	.....	.....	.....	.....	Delco..	Bat..	Delco..	.....	6-8
Rock Falls.....15	¾	151	P-35x5	P-35x5	.....	Cont..	6-3½x5½	3	Det..	6	"L"H.	Pump.	Fl.Pr..	Ray..	Vac..	.....	.....	.....	.....	Bosch..	Mag..	West..	West..	6-8
Rowe.....CW	1½	133	P-36x6	P-36x6	3820	Wisc..	4-3½x5	3	Int..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1650	27	Bosch..	Mag..	Opt.*.	Opt.*.	6-8
Rowe.....CDW	2	140	C-34x5	S-36x3½d	4500	Wisc..	4-4 x5	3	Int..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1500	21	Bosch..	Mag..	Opt.*.	Opt.*.	6-8
Rowe.....CDW	2½	142	C-34x5	S-36x4d	4800	Wisc..	4-4½x5	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1500	21	Bosch..	Mag..	Opt.*.	Opt.*.	6-8
Rowe.....GSW	3	158	C-34x6	S-36x5d	5900	Wisc..	4-4 x6	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1500	21	Bosch..	Mag..	Opt.*.	Opt.*.	6-8
Rowe.....HW	4	158	C-36x7	S-36x6d	6370	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1400	17	Bosch..	Mag..	Opt.*.	Opt.*.	6-8
Rowe.....FW	5	170	C-36x7	S-40x6d	8240	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1350	15	Bosch..	Mag..	Opt.*.	Opt.*.	6-8
Ruggles.....20R	1	128	P-34x5	P-34x5	2800	Own..	4-4 x5	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Grav.	.....	.....	.....	.....	Remy..	Bat..	Remy..	Remy..	.....
Ruggles.....40	2	148	P-34x5	S-34x7	4250	Own..	4-4 x5	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Grav.	.....	.....	.....	.....	Bosch..	Mag..	.....	.....	.....
Rumely.....A	1½–2	144	S-36x3½	S-36x5	4100	Buda..	4-3½x5¼	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Grav.	Pierce.	Cent..	1725	25	Split..	Mag..	Bosch*.	Bosch*	6-8
Sanford.....15	1½	132	S-*36x3½	S-*36x5	3850	Cont..	4-3½x5	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Zenith..	Vac..	.....	.....	.....	.....	Eisem..	Mag..	Dyn.*.	Dyn.*.	6-8
Sanford.....25	2½	174	S-*36x4	S-36x4d	5410	Cont..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Sp.Pr.	Strom..	Grav.	Pierce.	Cent..	1100	15	Eisem..	Mag..	Opt.*.	Opt.*.	6-8
Sanford.....35	3½–5	174	S-36x5	S-36x5d	6408	Cont..	4-4½x5½	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Strom..	Grav.	Pierce.	Cent..	1100	13	Eisem..	Mag..	Opt.*.	Opt.*.	6-8
Schacht.....2		156	S-36x4	S-36x7	6200	Buda..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1000	15	Bosch..	Mag..	Bosch*.	Opt.*.	6-8
Schacht.....3		168	S-36x5	S-36x5	6700	Buda..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1000	15	Bosch..	Mag..	Bosch*.	Opt.*.	6-8
Schacht.....4		168	S-36x5	S-40x5	7800	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1000	20	Bosch..	Mag..	Bosch*.	Opt.*.	6-8
Schacht.....5		168	S-36x5	S-40x6	8200	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1000	15	Bosch..	Mag..	Opt.*.	Opt.*.	6-8
Schacht.....7		168	S-36x6	S-40x7	8500	Wisc..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Grav.	Duplex.	Cent..	1000	....	Bosch..	Mag..	Opt.*.	Opt.*.	6-8
Security.....Twin Drive	2½	144	P-38x7	P-38x7	5600	Buda..	4-4½x5½	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Vac..	.....	.....	.....	.....	E'sem..	Mag..	West..	West..	.....
‡‡Selden.....A	1½	137½	S-*34x3½	S-*34x5	.....	Cont..	4-3½x5	3	Int..	4	"L"H.	Th-S..	Sp.Pr.	Strom..	Grav.	Pierce.	Cent..	1200	18	E'sem..	Mag..	N.E*.	N.E*.	.....
‡‡Selden.....A	2½	145	S-36x4	S-36x7	.....	Cont..	4-4½x5½	3	Int..	4	"L"H.	Th-S..	Sp.Pr.	Strom..	Grav.	Pierce.	Cent..	1200	16	Eisem..	Mag..	N.E*.	N.E*.	.....
‡‡Selden.....A	3½	162	S-36x5	S-36x10	.....	Cont..	4-4½x5½	3	Int..	2	"L"H.	Pump.	Sp.Pr.	Strom..	Grav.	Pierce.	Cent..	1125	14	Eisem..	Mag..	N.E....	N.E....	.....
‡‡Selden.....A	5	164	S-36x5	S-40x12	.....	Cont..	4-4½x6	3	Det..	2	"L"H.	Pump.	Press..	Strom..	Grav.	Cont..	Cent..	1125	13	Eisem..	Mag..	N.E....	N.E....	.....
Service.....12	¾	128	P-32x4½	P-32x4½	2720	Midw..	4-3½x4½	4	Det..	4	IH....	Th-S..	Press..	Strom..	Grav.	.....	.....	1800	....	Remy..	Bat..	Remy..	Remy..	6-8
Service.....25	1½	132	P-34x5	P-34x5	3300	Buda..	4-3½x5½	3	Det..	4	"L"H.	Pump.	Press..	Zenith..	Vac..	.....	.....	1300	....	Remy..	Bat..	Remy..	Remy..	6-8
Service.....21	1½	137	S-34x3½	S-34x5	3470	Buda..	4-3½x5½	3	Int..	4	"L"H.	Th-S..	Press..	Strom..	Vac..	.....	.....	1300	....	E'sem..	Mag..	West*.	West*.	6-8
Service.....32	2	150	S-*36x3½	S-*36x7	4850	Buda..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Press..	Strom..	Vac..	.....	.....	1300	....	E'sem..	Mag..	West*.	West*.	6-8
Service.....52	3	160	S-36x4	S-36x8	5180	Buda..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Press..	Strom..	Vac..	.....	.....	1300	....	Eisem..	Mag..	West*.	West*.	6-8
Service.....72	4	171	S-36x5	S-36x5	6930	Buda..	4-4½x5½	3	Int..	4	"L"H.	Pump.	Press..	Strom..	Vac..	.....	.....	1300	....	Eisem..	Mag..	West*.	West*.	6-8
Service.....77	4	171	S-36x5	S-36x5d	7280	Buda..	4-4½x6	3	Int..	4	"L"H.	Pump.	Press..	Strom..	Vac..	.....	.....	1300	....	Eisem..	Mag..	West*.	West*.	6-8
Service.....102	6	171½	S-36x6	S-40x6d	8760	Buda..	4-4½x6	3	Det..	4	"L"H.	Pump.	Press..	Strom..	Vac..	.....	.....	1300	....	Eisem..	Mag..	West*.	West*.	6-8

For abbreviations see pages 404-405.

Specifications (Continued)

TRANSMISSION																RUNNING GEAR										
Clutch		Gearset					Universal		Rear Axle							Brakes				Steering Gear		Wheels			MAKE AND MODEL
Make	Type	Make	Model	Type	Location	No. For. Spds.	Make	Type	Make	Model	Type of Axle or Jackshaft	Propulsion Taken By	Torque Taken By	Final Drive	Gear Reduct.	Foot Type and Location	Hand Type and Location	Springs Rear Type	Front Axle Make	Make	Type	Make	Type	Frame Make	
Fuller	MDD	Fuller	LTU5	SG	Un.E	3	Own	F	Timk	6250	½F	SP	SP	W	6.25	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	StM	Art	Smith	Nelson-Le Moon G1
B-L	MDD	B-L	35-3	SG	Un.E	3	Own	F	Timk	6466	½F	SP	SP	W	7.00	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Motor	Art	Own	Nelson-Le Moon G2
B-L	MDD	B-L	50-3	SG	Un.E	3	Own	F	Timk	6560	F	RR	SP	W	7.75	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Motor	Art	Own	Nelson-Le Moon G3
B-L	MDD	B-L	50-4	SG	Un.E	4	Own	F	Timk	6666	F	RR	SP	W	8.75	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Motor	Art	Own	Nelson-Le Moon G4
B-L	MDD	B-L	60-4	SG	SU	4	Own	F	Timk	6766	F	RR	SP	W	11.66	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Motor	Art	Own	Nelson-Le Moon G5
B-L	MDD	B-L	51	SG	SU	4	Hart	M	Timk	6560	F	SP	SP	W		Int-RW	Int-RW	½Ell	Timk	Gemm	W&W	Arch	Art	P&B	Netco DK
B-L	MDD	B-L	55	SG	SU	4	East	M	Timk	6560	F	SP	SP	W		Int-RW	Int-RW	½Ell	Timk	Gemm	W&W	Arch	Art	P&B	Netco HL
B-L	MDD	B-L	50	SG	Un.E	4	Peters	M	Timk	6560	F	RR		W	8.50	Int-RW	Int-RW	½Ell	Timk	Gemm	W&W	Hoopes	Art	Hydr	Niles H
Fuller	MDO	Fuller		SG	Un.E	3	Blood	M	Sheld	W1501	½F	SP	SP	W	6.50	Int-RW	Int-RW	½Ell	Sheld	Lav	W&S	Dayton	Art	Sharon	Noble A21
Fuller	MDO	Fuller	GU7	SG	Un.E	4	M&E	M	Sheld	W103	½F	SP	SP	W	8.66	Int-RW	Int-RW	½Ell	Sheld	Lav	W&S	Bimel	Art	Sharon	Noble B31
Fuller	MDD	Fuller	G7	SG	SU	4	M&E	M	Sheld	W21	½F	SP	SP	W	8.75	Int-RW	Int-RW	½Ell	Sheld	Lav	W&S	Bimel	Art	Sharon	Noble D51
Fuller	MDD	Warn	T53	SG	SU	4	M&E	M	Sheld	W30	½F	RR	SP	W	8.75	Int-RW	Int-RW	½Ell	Sheld	Lav	W&S	Bimel	Art	Sharon	Noble E71
B-L	MDD	B-L	30UPP	SG	Un.E	3	M&E	M	Timk	6250	½F	SP	SP	W	6.20	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Stand	Art	Own	Ogden A2
B-L	MDD	B-L	30	SG	Un.E	3	M&E	M	Timk	6460	½F	SP	SP	W	8.75	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Stand	Art	Own	Ogden D
B-L	MDD	B-L	35	SG	Un.E	4	M&E	M	Timk	6560	F	RR	SP	W	8.75	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Stand	Art	Own	Ogden E
Fuller	MDD	Fuller	G	SG	SU	4	Peters	M	Sheld	W21	½F	RR	SP	W	8.75	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Schwa	Art	Own	Old Reliable B
Fuller	MDD	Fuller	H	SG	SU	4	Peters	M	Sheld	W31	½F	RR	SP	W	8.75	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Schwa	Art	Own	Old Reliable C
Own	MDO	B-L	60	SG	SU	4			Sheld	W51	½F	RR	SP	W	10.25	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Schwa	Art	Own	Old Reliable D
Own	MDO	Own		SG	Un.J	4	Peters	M	Own		F	RR	SP	Ch	10.07	Ext-DS	Int-RW	½Ell	Cont	Ross	S&N	Schwa	Art	Own	Old Reliable K
B&B	SP	Warn	283	SG	Un.E	3	Spicer	M	Torb	OX2L	½F	SP	SP	IG	6.50	Ext-RW	Int-RW	½Ell	Torb	Jacox	S&N	A-W	Art	Own	Oldsmobile T
B-L	MDD	B-L	50	SG	Un.E	4	Spicer	M	Timk	6560	F	RR		W		Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Smith	CS	Savage	Olympic A
Fuller	MDD	Fuller	LT	SG	SU	3	Peters	M	Wisc	800J	½F	RR	TA	W		Int-RW	Int-RW	½Ell	Shul	Ross	S&N	Stand	Art	Own	Oneida B
Fuller	MDD	Fuller	LTC	SG	SU	4	Peters	M	Wisc	900C	½F	RR	TA	W		Int-RW	Int-RW	½Ell	Shul	Ross	S&N	Stand	Art	Detr	Oneida C
Fuller	MDD	Fuller	LTC	SG	SU	4	Peters	M	Timk	6652	F	RR	TA	W		Int-RW	Int-RW	½Ell	Cont	Ross	S&N	Smith	CS	Detr	Oneida D
B-L	MDD	B-L	35	SG	Un.E	4	Peters	M	Own		F	SP	SP	SB	8.20	Ext-DS	Ext-RW	½Ell	Own	Ross	S&N	Bimel	Art	Own	Oshkosh A
B-L	MDD	B-L	50	SG	Un.E	4	Peters	M	Own		F	SP	SP	SB	8.00	Ext-DS	Ext-RW	½Ell	Own	Ross	S&N	Bimel	Art	Own	Oshkosh B
Own		Own			Un.E	3	Univ	M	Russel	700		SP	SP	IG		Ext-RW	Int-RW	½Ell	Own	Own		Hoopes	Art	Own	Overland (Penn)
B&B	SP	Own		SG	Un.E		Own	M	Own		½F	SP	TT	SB	4.50	Ext-RW	Int-RW	Cant	Own	Own	PL	Hayes	Art	Own	Overland 4D (Ohio)
[redacted]																									
Own	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	7.25	Ext-DS	Int-RW	½Ell	Own	Own	W&W	Prud	Art	Own	Packard E
Own	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	8.00	Ext-DS	Int-RW	½Ell	Own	Own	W&W	Detr	CS	Own	Packard EX
Own	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	9.00	Ext-DS	Int-RW	½Ell	Own	Own	W&W	Detr	CS	Own	Packard E
Own	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	10.66	Ext-DS	Int-RW	½Ell	Own	Own	W&W	C'ark	CS	Own	Packard E
B-L	MDD	B-L	35	SG	SU	4	Spicer	M	Timk	6460	½F	RR	SP	W		Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Own	Art	Hydr	Paige 52-19
B-L	MDD	B-L	50	SG	SU	4	Spicer	M	Sheld	W21	½F	RR	SP	W		Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Dayton	CS	Hydr	Paige 54-20
B-L	MDD	B-L	50	SG	SU	4	Spicer	M	Timk	6660	F	RR	SP	W		Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Own		Hydr	Paige 51-18
Fuller	MDD	Fuller	SU1	SG	Un.E	3	Blood	M	Flint	BA80	F	SP	SP	SP	5.50	Int-RW	Int-RW	½Ell	Flint	Lav	S&N	Bimel	Art	Smith	Parker B23
B-L	MDD	B-L	30	SG	Un.E	3	Blood	M	Timk	6460	½F	RR	SP	W	7.00	Int-RW	Ext-RW	½Ell	Timk	Lav	S&N	Bimel	Art	Smith	Parker E23
B-L	MDD	Fuller	G	SG	SU	4	Blood	M	Own		F	RR	SP	W	7.75	Ext-DS	Int-RW	½Ell	Shul	Ross	S&N	Bimel	Art	Smith	Parker G1
B-L	MDD	Warn	T53	SG	SU	4	Blood	M	Own		F	RR	SP	W	8.75	Ext-DS	Int-RW	½Ell	Shul	Ross	S&N	Smith	CS	Smith	Parker J20
B-L	MDD	Warn	T53	SG	SU	4	Blood	M	Timk	6752	F	RR	SP	W	10.33	Ext-DS	Int-RW	½Ell	Shu	Ross	S&N	Smith	CS	Smith	Parker M20
B&B	SP	Covert	MAO	SG	SU	3	Therm	F	Dunk	B	½F	SP	SP	W	6.20	Int-RW	Int-RW	½Ell	Flint	CAS	S&N	Bimel	Art	Detr	Patriot Revere
Covert	MDD	Fuller	MA	SG	SU	4	Therm	F	Timk	6560	F	SP	SP	W	7.75	Int-RW	Int-RW	½Ell	Shul	Ross	S&N	Bimel	Art	Detr	Patriot Lincoln-Sp
Covert	MDD	Covert	RAK4	SG	SU	4	Therm	F	Wisc	900C	½F	SP	SP	W	9.66	Int-RW	Int-RW	½Ell	Shul	Ross	S&N	Bimel	Art	Detr	Patriot Washington-Sp
Own	MDD	Own		SG	SU	4	Spicer	M	Own		½F	SP	SP	W	9.33	Int-RW	Int-RW	½Ell	Own	Own	S&N	Dayton	CS	Own	Pierce-Arrow X5
Own	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	8.00	Ext-DS	Int-RW	½Ell	Own	Own	S&N	Dayton	CS	Own	Pierce-Arrow W2
Oin	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	10.00	Ext-DS	Int-RW	½Ell	Own	Own	S&N	Dayton	CS	Own	Pierce-Arrow R10
B-L	MDD	B-L	M35	SG	Un.E	4	Spicer	M	Vu	3R	F	RR	TA	W	9.50	Int-RW	Int-RW	½Ell	Vul	Ross	S&N	Smith	CS	P&B	Pittsburgher A
B-L	MDD	B-L	M35	SG	Un.E	4	Spicer	M	Vul	4R	F	RR	TA	W	9.50	Int-RW	Int-RW	½Ell	Vul	Ross	S&N	Smith	CS	P&B	Pittsburgher C
Fuller	MDD	Fuller	GU	SG	Un.E	4	Arvac	M	Vul	4R	F	SP	SP	W	7.75	Int-RW	Int-RW	½Ell	Vul	Ross	S&N	StM	Art	Own	‡‡Power F
Fuller	MDD	Fuller		SG	SU	4	Arvac	M	Wisc	900E	½F	SP	SP	W	10.00	Int-RW	Int-RW	½Ell	Cont	Ross	S&N	StM	Art	Own	‡‡Power C
B-L	MDD	B-L	25	SG	Un.E	3	Hart	M	Timk	6250	½F	SP	SP	W	6.75	Int-RW	Int-RW	½Ell	Timk	Lav	S&N	Jones	Art	Parish	Rainier R31
B-L	MDD	B-L	30	SG	Un.E	3	Spicer	M	Timk	6250	½F	SP	SP	W	6.75	Int-RW	Int-RW	½Ell	Timk	Lav	S&N	Jones	Art	Parish	Rainier R29
B-L	MDD	B-L	30	SG	Un.E	3	Spicer	M	Timk	6460	½F	RR	SP	W	7.75	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Jones	Art	Parish	Rainier R36
B-L	MDD	B-L	35	SG	SU	4	Spicer	M	Sheld	W103	½F	RR	SP	W	8.66	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Jones	Art	Parish	Rainier R28
B-L	MDD	B-L	50	SG	SU	4	Spicer	M	Timk	6560	F	RR	SP	W	8.50	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Jones	Art	Parish	Rainier R20
B-L	MDD	B-L	60	SG	SU	4	Spicer	M	Timk	6660	F	RR	SP	W	10.33	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Jones	Art	Parish	Rainier R25
B-L	MDD	B-L	60	SG	SU	4	Spicer	M	Timk	6760	F	RR	SP	W	13.66	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Smith	CS	Parish	Rainier R27
	MDD	Fuller	S	SG	Un.E	3	Univ	M	Timk	6460	½F	RR	TA	W	9.25	Int-RW	Int-RW	½Ell	Timk	Lav	W&W	Stand	Art	Hydr	Ranger TK
Own	MDD	Own		SG	SU	3	Own	M	Own		F	SP	TA	SB	4.70	Ext-RW	Int-RW	½Ell	Own	Own	BP&S	Motor		Own	Reo F
Fuller	MDD	Fuller	SU	SG	Un.E	3	Spicer	M	Torb	750		SP	SP	IG	5.65	Ext-RW	Int-RW	½Ell	Torb	Jacox	S&N	Motor	Art	Detr	Republic 75
Fuller	MDD	Fuller	LTU	SG	Un.E	3	Spicer	M	Torb	1000		SP	SP	IG	6.28	Ext-RW	Int-RW	½Ell	Torb	Jacox	S&N	Motor	Art	Detr	Republic 10E
Fuller	MDD	Fuller	TU	SG	Un.E	3	Hart	M	Torb	CT2		SP	SP	IG	8.00	Ext-RW	Int-RW	½Ell	Torb	Jacox	S&N	Motor	Art	Detr	Republic 11X
Fuller	MDD	Fuller	GU	SG	Un.E	4	Peters	M	Torb	CT2		SP	SP	IG	8.00	Ext-RW	Int-RW	½Ell	Torb	Jacox	S&N	Motor	Art	Detr	Republic 19W
Fuller	MDD	Fuller	GU	SG	Un.E	4	Spicer	M	Torb	CT2		SP	SP	IG	8.00	Ext-RW	Int-RW	½Ell	Torb	Jacox	S&N	Motor	Art	Detr	Republic 19
Fuller	MDD	Fuller	GU	SG	Un.E	4	Spicer	M	Torb	E		SP	SP	IG	10.26	Int-RW	Ext-DS	½Ell	Savage	Jacox	S&N	Smith	CS	Detr	Republic 20
B-L	MDD	B-L	50A	SG	Un.E	4	Blood	M	Timk	5762		SP	TA	SB		Ext-RW	Int-RW	½Ell	Timk	Ross	S&N	Bimel	Art	P&B	Riddle 223
B&B	SP	Detr		SG	Un.E	3	Spicer	M	Timk	5762	F	SP	TA	SB		Ext-RW	Int-RW	½Ell	Timk	Gemm	W&S	Mutual	Art	P&B	Rock Falls 15
B-L	MDD	B-L	35	SG	Un.E	4	Spicer	M	Sheld	W1501	½F	RR	SP	W	6.50	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Hoopes	Art	Own	Rowe CW
B-L	MDD	B-L	35	SG	Un.E	4	Spicer	M	Sheld	W103	½F	RR	SP	W	7.75	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Hoopes	Art	Own	Rowe CDW
B-L	MDD	B-L	50	SG	Un.E	4	Spicer	M	Sheld	W21	½F	RR	SP	W	7.75	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Hoopes	Art	Own	Rowe CDW
B-L	MDD	B-L	50	SG	Un.E	4	Spicer	M	Sheld	W21	½F	RR	SP	W	7.75	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Hoopes	Art	Own	Rowe GSW
B-L	MDD	B-L	55	SG	Un.E	4	Spicer	M	Sheld	W31	½F	RR	SP	W	8.75	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Hoopes	Art	Own	Rowe HW
B-L	MDD	B-L	60	SG	SU	4	Spicer	M	Sheld	W51	½F	RR	SP	W	10.25	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Smith	CS	Own	Rowe FW
B-L	MDD	B-L	30	SG	Un.E	3	Spicer	M	Colum	51000	½F	SP	SP	SP	3.12	Ext-RW	Int-RW	½Ell	Colum	Jacox	S&N	North	Art	Hydr	Ruggles 20R
B-L	MDD	B-L	35	SG	Un.E	4	Spicer	M	Wisc	60	½F	RR	SP	DR	7.00	Ext-RW	Int-RW	½Ell	Colum	Jacox	S&N	North	Art	Hydr	Ruggles 40
Fuller	MDD	Fuller	LTU5	SG	Un.E	3	Blood	M	Sheld	1501W	½F	SP	SP	W	7.80	Int-RW	Int-RW	½Ell	Shul	Gemm	W&W	Motor	Art	Hydr	Rumely A
B-L	MDD	B-L	30	SG	Un.E	3	Spicer	M	Sheld	W1501	½F	SP	SP	W	6.50	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Indest	Art	P&B	Sanford 15
B&B	SP	B-L	35	SG	SU	4	Spicer	M	Sheld	W21	½F	SP	SP	W	8.75	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Hoopes	Art	P&B	Sanford 25
B&B	SP	B-L	50	SG	SU	4	Spicer	M	Sheld	W31	½F	SP	SP	W	8.75	Int-RW	Int-RW	½Ell	Sheld	Ross	S&N	Hoopes	Art	P&B	Sanford 35
B&B	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	8.66	Ext-DS	Int-RW	½Ell	Own	Own	W&W	StM	Art	Own	Schacht
B&B	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	9.66	Ext-DS	Int-RW	½Ell	Own	Own	W&W	StM	Art	Own	Schacht
B&B	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	14.00	Ext-DS	Int-RW	½Ell	Own	Own	W&W	StM	Art	Own	Schacht
B&B	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	14.00	Ext-DS	Int-RW	½Ell	Own	Own	W&W	StM	Art	Own	Schacht
B&B	MDD	Own		SG	SU	4	Spicer	M	Own		F	RR	TA	W	14.00	Ext-DS	Int-RW	½Ell	Own	Own	W&W	StM	Art	Own	Schacht
Detl	MDD	Cotta	RW	CM	Un.E	4	Pick	F	Own			RR		IG	7.00			½Ell	Own	Wohl	W&S			P&B	Security Twin Drive
B-L	MDD	B-L		SG	Un.E	3	Spicer	M	Timk		½F	SP	SP	W		Int-RW	Int-RW	½Ell	Timk	Lav	S&N	Arch	Art	Own	‡‡Selden A
B-L	MDD	B-L		SG	SU	4	Spicer	M	Timk		F	RR	SP	W		Int-RW	Int-RW	½Ell	Timk	Gemm	W&W	Stand	CS	Own	‡‡Selden A
B-L	MDD	B-L		SG	SU	4	Spicer		Timk		F	RR	SP	W		Int-RW	Int-RW	½Ell	Timk	Gemm	W&W	Stand	CS	Own	‡‡Selden A
B-L	MDD	B-L		SG	SU	4	Spicer		Timk		F	RR	SP	W		Int-RW	Int-RW	½Ell	Timk	Gemm	W&W	Stand	CS	Own	‡‡Selden A
Detl	MDD	B-L		SG	SU	4	Spicer	M	Timk		F	RR	SP	W		Int-RW	Int-RW	½Ell	Own	Ross	S&N	Bimel	Art	Savage	Service 12
Hoosier	SP	Detr	DY208	SG	Un.E	3	M&E	F	Timk	5311A	½F	SP	SP	SP	6.11	Int-RW	Int-RW	½Ell	Shul	Ross	S&N	Bimel	Art	Savage	Service 25
B-L	SP	B-L	30	SG	Un.E	3	M&E	M	Eaton	1000	½F	SP	SP	SP	5.62	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Bimel	Art	Savage	Service 21
Fuller	MDD	Fuller	TU½	SG	Un.E	3	M&E	M	Timk	6456	½F	SP	SP	W	7.75	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Bimel	Art	Savage	Service 32
B&B	SP	B-L	50	SG	SU	4	M&E	M	Timk	6460	½F	SP	SP	W		Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Bimel	Art	Savage	Service 52
B&B	SP	B-L	50	SG	SU	4	M&E	M	Timk	6560	F	SP	SP	W		Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Bimel	Art	Savage	Service 72
B&B	SP	B-L	60	SG	SU	4	Spicer	M	Timk	6660	F	RR	SP	W		Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Inters	CS	Savage	Service 77
B&B	SP	B-L	60	SG	SU	4	Spicer	M	Timk	6660	F	RR	SP	W	7.80	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Inters	CS	Savage	Service 102
B&B	SP	B-L	60	SG	SU	4	Spicer	M	Timk	6760	F	RR	SP	W	10.80	Int-RW	Int-RW	½Ell	Timk	Ross	S&N	Inters	CS	Savage	Service

American Gasoline Truck

MAKE AND MODEL	GENERAL					ENGINE														ELECTRICAL SYSTEM				
	Tons Capacity	Standard Wheelbase (Ins.)	Standard Tire Size and Type: Front	Standard Tire Size and Type: Rear	Chassis Weight (Lbs.)	Make	No. of Cylinders Bore and Stroke	Point Suspension	Cylinder Head	No. of Cyls. per C'stg.	Valve Arrangement	Water Circulation	Oiling System	Fuel System: Carbureter Make	Fuel System: Fuel Feed	Governor: Make	Governor: Type	Max. Gov. Speeds: In R. P. M. of Engine	Max. Gov. Speeds: In M. P. H. of Truck	Ignition System: Make	Ignition System: Current Sources	Generator Make	Starter Make	Voltage
Signal NF	1½	132	P-34x5	P-36x6	3575	Cont.	4-3¾x5	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Duplex.	Cent.	1400	25	Eisem.	Mag.	Delco*	Delco*	6-8
Signal H	2½	146	S-34x6	S-36x6	4750	Cont.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Duplex.	Cent.	1300	15	Eisem.	Mag.	Delco*	Delco*	6-8
Signal J	3½	150	S-34x4	S-36x8	5250	Cont.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Duplex.	Cent.	1300	15	Eisem.	Mag.	Delco*	Delco*	6-8
Signal M	5	168	S-36x5	S-40x10	7350	Cont.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Duplex.	Cent.	1200	12	Eisem.	Mag.	Delco*	Delco*	6-8
Signal R	7½	180	S-36x6	S-40x12	9500	Cont.	4-4¾x6	3	Det.	2	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Duplex.	Cent.	1000	12	Eisem.	Mag.	Delco*	Delco*	6-8
Standard 75	1½	134	P-33x5	P-33x5	3000	Cont.	4-3½x5	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Strom.	Vac.	.....	.....	1800	35	Eisem.	Mag.	Eisem*	Bosch*	6-8
Standard IK	1½	134	S-34x3½	C-34x5	3466	Cont.	4-3½x5	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Strom.	Vac.	Mon.	Suc.	1200	17	Eisem.	Mag.	Eisem*	Bosch*	6-8
Standard K	2½	146	S-36x4	C-36x8	4600	Cont.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Duplex.	Cent.	1200	16	Eisem.	Mag.	Bosch*	Bosch*	6-8
Standard K	3½	160	S-36x5	S-36x5	6480	Cont.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Duplex.	Cent.	1000	12	Eisem.	Mag.	Bosch*	Bosch*	6-8
Standard K	5	164	S-36x6	S-40x14	8700	Cont.	4-4¾x6	3	Det.	2	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Duplex.	Cent.	1000	10	Eisem.	Mag.	Bosch*	Opt.*	6-8
Sterling	1½	142	S-*36x3½	S-*36x5d	4980	Wauk.	4-4 x5½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Vac.	Wauk.	Cent.	1000	16	Eisem.	Mag.	Bosch*	Bosch*	6-8
Sterling	2	142	S-*36x4	S-*36x6d	5950	Wauk.	4-4 x5½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Vac.	Wauk.	Cent.	1000	16	Eisem.	Mag.	Bosch*	Bosch*	6-8
Sterling	2½	156	S-*36x4	S-*36x4d	5980	Wauk.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Vac.	Wauk.	Cent.	1000	15	Eisem.	Mag.	Bosch*	Bosch*	6-8
Sterling	3½	162	S-36x5	S-40x5d	8350	Wauk.	4-4½x6¼	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Vac.	Wauk.	Cent.	1000	14	Eisem.	Mag.	Bosch*	Bosch*	6-8
Sterling	5	168	S-36x6	S-40x6d	9750	Wauk.	4-5 x6¼	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Vac.	Wauk.	Cent.	1000	14	Eisem.	Mag.	Bosch*	Bosch*	6-8
Sterling	5	174	S-36x6	S-40x6d	10250	Wauk.	4-5 x6½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Vac.	Wauk.	Cent.	1000	17	Eisem.	Mag.	Bosch*	Bosch*	6-8
Sterling	7½	174	S-36x6	S-40x7d	11100	Wauk.	4-5 x6½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Vac.	Wauk.	Cent.	1000	16	Eisem.	Mag.	Bosch*	Bosch*	6-8
Stewart 15	1	130	P-35x5	P-35x5	3140	Buda.	4-3¾x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	McC.	Suc.	.....	....	Remy.	Bat.	Remy.	Remy.	6-8
Stewart 14X	1¼	128	P-34x4½	P-34x4½	3050	Buda.	4-3¾x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	McC.	Suc.	.....	....	Remy.	Bat.	Remy.	Remy.	6-8
Stewart 9	1½	154	S-34x3½	S-34x6	3440	Cont.	4-3½x5	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Zenith.	Vac.	McC.	Suc.	.....	....	Remy.	Bat.	Remy.	Remy.	6-8
Stewart 7X	2½	156	S-*34x4	S-*34x8	4870	Buda.	4-4¼x5½	..	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	McC.	Suc.	.....	....	Eisem.	Mag.	Remy.	Remy.	6-8
Stewart 10X	3½	165	S-*36x5	S-*36x12	6720	Buda.	4-4¼x6	..	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	McC.	Suc.	.....	....	Eisem.	Mag.	Eisem.	.....	6-8
Stoughton C	¾–1¼	131	P-34x4½	P-34x4½	2480	Midw	4-3¾x4½	3	Det.	4	IH...	Th-S.	Press.	Zenith.	Vac.	.....	.....	.....	....	Remy.	Bat.	Remy*	Remy*	6-8
Stoughton A	1½	130	P-34x5	P-34x5	3300	Wauk.	4-3¾x5½	3	Det.	4	"L"H.	Pump.	Sp.Pr.	Strom.	Grav.	Wauk.	Cent.	1200	20	Eisem.	Mag.	Dyn.*	Dyn.*	6-8
Stoughton B	1½	140	S-36x3½	S-36x5	3730	Wauk.	4-3¾x5½	3	Det.	4	"L"H.	Pump.	Sp.Pr.	Strom.	Grav.	Wauk.	Cent.	1200	18	Eisem.	Mag.	Dyn.*	Dyn.*	6-8
Stoughton D	2	140	S-36x4	S-36x7	4600	Herc.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Duplex.	Cent.	1400	18	Eisem.	Mag.	West*.	Opt.*	6-8
Stoughton F	3	156	S-36x5	S-36x5d	5900	Midw	4-4¼x5¼	3	Det.	2	IH...	Pump.	Press.	Zenith.	Grav.	.....	.....	1200	....	Eisem.	Mag.	Remy*.	Opt.*.	6-8
Thomart 20	1½	134	P-34x5	P-34x5	3600	Hink.	4-4 x5¼	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	.....	.....	.....	...	West..	Bat.	West..	West..	6-8
Tiffin GW	1½–2	135	S-36x3½	S-36x5	3700	Cont.	4-4½x5½	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Scheb.	Grav.	Pierce.	Cent.	1100	16	Bosch.	Mag.	Eisem*.	West*.	6-8
Tiffin MW	2½–3	148	S-36x4	S-36x3½d	5125	Cont.	4-4½x5½	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Scheb.	Grav.	Pierce.	Cent.	1050	14	Bosch.	Mag.	Eisem*.	West*.	6-8
Tiffin F35	3½–4	160	S-36x5	S-40x5	7150	Cont.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Fl.Pr.	Strom.	Grav.	Pierce.	Cent.	1000	13	Bosch.	Mag.	West*.	West*.	6-8
Tiffin TW	5–6	168	S-36x6	S-40x6d	8550	Cont.	4-4¼x6	3	Det.	2	"L"H.	Pump.	Press.	Scheb.	Grav.	Cont.	Cent.	1000	11	Bosch.	Mag.	West*.	West*.	6-8
Tiffin UW	6–7	168	S-36x6	S-40x12	9150	Cont.	4-4¼x6	3	Det.	2	"L"H.	Pump.	Press.	Scheb.	Grav.	Cont.	Cent.	1000	11	Bosch.	Mag.	West*.	West*.	6-8
Titan	2½	156	S-36x4	S-36x8	5570	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex.	Cent.	1200	16	Eisem.	Mag.	West*.	West*.	6-8
Titan	3½	156	S-36x5	S-40x10	....	Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Pharo.	Cent.	1100	14	Eisem.	Mag.	West*.	West*.	6-8
Titan	5	156	S-36x5	S-40x12	8500	Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Pharo.	Cent.	1100	12	Eisem.	Mag.	West*.	West*.	6-8
Traffic Speedway	1½	128	P-35x5	P-35x5	3325	Cont.	4-3½x5	3	Int.	4	"L"H.	Th-S.	Sp.Pr.	Carter.	Grav.	.....	.....	.....	....	Bosch.	Mag.	G&D..	G&D..	6-8
Traffic	2	132	S-34x3½	S-34x5	3160	Cont.	4-3½x5	3	Int.	4	"L"H.	Th-S.	Sp.Pr.	Carter.	Grav.	.....	.....	.....	....	Bosch.	Mag.	G&D..	G&D..	6-8
Traffic	3	135	S-36x4	S-36x7	3985	Cont.	4-3½x5	3	Int.	4	"L"H.	Th-S.	Sp.Pr.	Carter.	Grav.	.....	.....	.....	....	Bosch.	Mag.	G&D..	G&D..	6-8
Transport 15	1	128	S-*32x4½	S-*32x4½	2950	Cont.	4-3½x5	3	Int.	4	"L"H.	Th-S.	Sp.Pr.	Zenith.	Vac.	.....	.....	.....	....	Remy.	Bat.	Remy*.	Remy*	6-8
Transport 25	1½	130	S-34x3½	S-34x5	3700	Buda.	4-3¾x5½	3	Det.	4	"L"H.	Th-S.	Spl.	Strom.	Vac.	.....	.....	.....	....	Eisem.	Mag.	Eisem*.	Remy*.	6-8
Transport 35	2	140	S-36x3½	S-36x6	4000	Cont.	4-3½x5	3	Int.	4	"L"H.	Th-S.	Sp.Pr.	Strom.	Grav.	Duplex.	Cent.	1276	18	Eisem.	Mag.	Remy*.	Remy*.	6-8
Transport 55	3	150	S-36x4	S-36x8	5000	Cont.	4-4¼x5¼	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Strom.	Grav.	Duplex.	Cent.	1180	15	Eisem.	Mag.	Eisem*.	Remy*.	6-8
Transport 60	3½	150	S-36x4	S-36x8	5400	Buda.	4-4¼x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Cent.	1180	15	Eisem.	Mag.	Remy*.	Remy*.	6-8
Transport 75	5	170	S-36x5	S-36x12	7600	Buda.	4-4¼x6	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Cent.	1120	12	Eisem.	Mag.	Remy*.	Remy*.	6-8
Traylor B	1½	140	S-34x3½	S-34x6	4300	Buda.	4-3¾x5½	3	Det.	4	"L"H.	Th-S.	Sp.Pr.	Zenith.	Grav.	.....	.....	.....	....	Split.	Mag.	West*.	West*.	6-8
Traylor C	2–2½	146	S-36x4	S-36x7	5500	Buda.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Pierce.	Cent.	.....	25	Split.	Mag.	West..	West..	6-8
Traylor D	3–3½	150	S-36x4	S-36x8	6200	Buda.	4-4¼x5½	3	Det.	4	"L"H.	Pump.	Sp.Pr.	Zenith.	Grav.	Pierce.	Cent.	.....	18	West..	Mag.	West..	West..	6-8
Traylor F	5–6	170	S-36x6	S-40x6d	9200	Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex.	Cent.	.....	15	Bosch.	Mag.	West..	.....	....
Triangle AA	1	123	P-34x4½	P-34x4½	2300	H-S.	4-3½x5	3	Det.	4	"L"H.	Th-S.	Sp.Pr.	Strom.	Grav.	.....	.....	2200	36	N.E.	Bat.	N.E.	N.E.	6-8
Triangle A	1½–2	144	S-*34x4	S-*34x7	3750	Wauk.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Spl.	Strom.	Grav.	Wauk.	Cent.	1450	20	Eisem.	Mag.	Eisem*.	N.E*.	6-8
Triangle C	2–2½	147	S-*36x4	S-*36x7	4250	Wauk.	4-3¾x5½	3	Det.	4	"L"H.	Pump.	Spl.	Strom.	Grav.	Wauk.	Cent.	1450	17	Eisem.	Mag.	Eisem*.	N.E*.	6-8
Triangle B	2½–3	150	S-*36x4	S-*36x8	4900	Wauk.	4-4 x5½	3	Det.	2	"L"H.	Pump.	Press.	Strom.	Grav.	Wauk.	Cent.	1300	19	Eisem.	Mag.	Split*.	Opt.*.	6-8
Ultimate AJL	2	156	S-36x3½	S-36x6	4600	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.	Pierce.	Cent.	.....	20	Eisem.	Mag.	Bosch*	Bosch*	6-8
Ultimate B	3	154	S-36x4	S-36x8	5340	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.	Pierce.	Cent.	.....	20	Eisem.	Bat.	Bosch*	Bosch*	6-8
Ultimate D	5	180	S-36x7	S-40x7d	9700	Buda.	4-5 x6½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Pierce.	Cent.	.....	15	Eisem.	Bat.	Bosch*	Bosch*	6-8
United Highway 15	1	128	P-32x4½	P-32x4½	2525	H-S.	4-3½x5	3	Det.	4	"L"H.	Th-S.	Sp.Pr.	Zenith.	Grav.	.....	.....	.....	....	Bosch.	Bat.	Bosch*	Bosch.	6-8
United 30	1½	148	P-34x5	P-34x5	....	Herc.	4-4 x5	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	.....	.....	.....	....	Bosch.	Bat.	Bosch.	Bosch.	6-8
United 35	1½	150	P-34x5	S-34x6	3700	Herc.	4-4 x5	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	.....	.....	.....	....	Bosch.	Mag.	Bosch*	Bosch*	6-8
United 50	2½	156	S-34x4	S-34x8	4400	Herc.	4-4 x5	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	.....	.....	.....	....	Bosch.	Mag.	Bosch*	Bosch*	6-8
United States U	1½	138	P-34x5	P-34x5	3400	Buda.	4-3¾x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.	.....	.....	.....	....	Bosch.	Bat.	Bosch.	Bosch.	6-8
United States N	1½	144	S-36x3½	S-36x5	3850	Cont.	4-3½x5	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Strom.	Vac.	.....	.....	.....	....	.....	.....	.....	Bosch*	6-8
United States NW	1½	144	S-36x3½	S-36x5	3850	Cont.	4-3½x5	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Strom.	Vac.	.....	.....	.....	....	.....	Mag.	Bosch*	Bosch*	6-8
United States R	3	156	S-36x4	S-36x8	5250	Hink.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Hink.	Cent.	1400	17	Eisem.	Mag.	Bosch*	Bosch*	6-8
United States S	4	168	S-36x5	S-36x5	6930	Hink.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Hink.	Cent.	1200	12	Eisem.	Mag.	Bosch*	Bosch*	6-8
United States T	6	172	S-36x6	S-40x6	9465	Buda.	4-4¼x6½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.	Duplex.	Cent.	950	11	Eisem.	Mag.	Bosch*	Bosch*	6-8
Velie 46	1½	133	S-36x3½	S-36x5	3650	Cont.	4-3¾x5	3	Int.	4	"L"H.	Pump.	Sp.Pr.	Strom.	Grav.	Mon.	Suc.	.....	20	A-K..	Mag.	Bijur*	Bijur*	6-8
Walker-Johnson L	1–1½	132	P-34x5	P-36x6	.....	Midw	4-3¾x5	3	Det.	4	IH...	Pump.	Press.	Zenith.	Vac.	.....	.....	.....	....	Remy.	Bat.	Remy*.	Remy*	6-8
Walker-Johnson B	3	150	S-36x4	S-36x8	5400	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Pierce.	Cent.	.....	18	Eisem.	Bat.	Eisem*.	Opt.*.	6-8
Walter M	2½	144	S-36x4	S-36x8	5500	Own.	4-4 x5½	3	Det.	2	"L"H.	Pump.	Press.	Strom.	Grav.	Own.	Cent.	1200	18	Apollo.	Mag.	West*.	West*.	6-8
Walter S	5	168	S-36x6	S-40x6	8000	Own.	4-4½x6½	3	Det.	2	"L"H.	Pump.	Press.	Strom.	Grav.	Own.	Cent.	1100	15	Apo lo.	Mag.	West..	West..	6-8
Watson D	1	128	P-34x5	P-34x5	3000	Buda.	4-3¾x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	.....	.....	.....	....	Simms.	Mag.	Dyn..	Dyn.	6-8
Western W	1½	148	S-36x3½	S-36x5	4000	Cont.	4-4¼x5½	3	Int.	4	"L"H.	Pump.	Press.	Strom.	Grav.	.....	.....	.....	....	Bosch.	Mag.	Vesta*	Opt.*	6-8
Western L	1½	148	S-36x3½	S-36x5	4000	Buda.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	.....	.....	.....	....	Bosch.	Mag.	Bosch*	Bosch*	6-8
Western L	2½	152	S-36x4	S-36x7	5200	Buda.	4-4¼x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	McC.	Suc.	1400	....	Bosch.	Mag.	Bosch*	Bosch*	6-8
Western W	2½	152	S-36x4	S-36x7	5200	Cont.	4-4¼x5¼	3	Int.	4	"L'H.	Pump.	Sp.Pr.	Strom.	Grav.	.....	.....	.....	....	Bosch.	Mag.	Vesta*	Opt.*	6-8
Western W	3½	176	S-36x5	S-40x10	6500	Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.	Pierce.	Cent.	1400	....	Bosch.	Mag.	Bosch*	Bosch*	6-8
White 15	½	133½	P-34x5	P-34x5	3225	Own.	4-3½x5½	3	Int.	4	"L"H.	Pump.	Spl.	Zenith.	Grav.	.....	.....	.....	....	Opt.*	Mag.	L-N*.	N.E*.	12-16
White 20	2	168	S-36x4	S-36x7d	4815	Own.	4-3½x5½	3	Int.	4	"L"H.	Pump.	Spl.	Zenith.	Grav.	.....	.....	.....	....	Opt.*	Mag.	L-N*.	N.E*.	12-16
White 40	3½	174	S-36x5	S-40x5d	7300	Own.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Sp.Pr.	Zenith.	Vac.	Own.	Cent.	1500	....	Opt.*	Mag.	L-N*.	N.E*.	12-16
White 45	5	174	S-36x6	S-40x6	7950	Own.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	Own.	Cent.	1500	....	Opt.*	Mag.	L-N*.	L-N*.	12-16
‡‡**Wichita** K	1	144	S-*36x3	S-*36x6	2300	Wauk.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Spl.	Strom.	Grav.	Wauk.	Cent.	1000	13	Eisem.	Mag.	N.E.	N.E.	6-8
‡‡**Wichita** M	2	144	S-*36x3½	S-*36x6	2800	Wauk.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Spl.	Strom.	Grav.	Wauk.	Cent.	1000	12	Eisem.	Mag.	N.E*.	N.E*.	6-8
‡‡**Wichita** RX	3	160	S-*36x4	S-*36x8	3600	Wauk.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Press.	Strom.	Grav.	Wauk.	Cent.	1000	12	Eisem.	Mag.	N.E*.	N.E*.	6-8
‡‡**Wichita** O	4	165	S-36x5	S-36x5d	4000	Wauk.	4-4½x6½	3	Det.	2	"L"H.	Pump.	Press.	Strom.	Grav.	Wauk.	Cent.	1000	9	Eisem.	Mag.	N.E*.	N.E*.	6-8
Wilcox AA	1	130	S-*35x5	S-*35x5	3600	Buda.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Cent.	1200	20	Bosch.	Mag.	West..	West..	6-8
Wilcox BB	1½	144	S-*36x6	S-*38x7	4500	Own.	4-4¼x5	3	Det.	2	"L"H.	Pump.	Spl.	Strom.	Grav.	Duplex.	Cent.	1100	....	Bosch.	Mag.	West..	West..	6-8
Wilcox CC	2½	150	S-*36x6	S-*40x8	4900	Own.	4-4¼x5	3	Det.	2	"L"H.	Pump.	Spl.	Strom.	Grav.	Duplex.	Cent.	1100	....	Bosch.	Mag.	West..	West..	6-8
Wilcox EE	3½	162	S-*36x5	S-*36x10	7500	Buda.	4-4¼x6	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Cent.	1100	11	Bosch.	Mag.	West..	West..	6-8
Wilcox F	5	162	S-36x5	S-40x12	9000	Buda.	4-4½x6½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Cent.	900	9	Bosch.	Mag.	.....	.....	....
Wilson F	1½	140	S-*36x3½	S-*36x5	3800	Cont.	4-3½x5	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Holley.	Grav.	Pierce.	Cent.	1100	20	Eisem.	Mag.	Opt.*.	Opt.*.	6-8
Wilson EA	2½	152	S-*36x4	S-*36x7d	4625	Cont.	4-4¼x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Holley.	Grav.	Pierce.	Cent.	1150	15	Eisem.	Mag.	Opt.*.	Opt.*.	6-8
Wilson G	3½	160	S-*36x5	S-*36x5d	6800	Cont.	4-4¼x5½	3	Det.	2	"L"H.	Pump.	Fl.Pr.	Holley.	Vac.	Pierce.	Cent.	1100	13	Eisem.	Mag.	Opt.*.	Opt.*.	6-8
Wilson H	5	160	S-*36x6	S-*40x6d	7500	Cont.	4-4¼x6	3	Det.	2	"L"H.	Pump.	Press.	Holley.	Vac.	Pierce.	Cent.	1100	12	Eisem.	Mag.	Opt.*.	Opt.*.	6-8
Winter & Hirsh K	2½	152	S-*36x4	S-*36x8	5200	Cont.	4-4¼x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Pharo.	Hydr.	1400	....	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
Winter & Hirsh L	3½	178	S-*36x5	S-*40x10	6500	Cont.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Pharo.	Hydr.	1400	....	Bosch.	Mag.	Bosch*.	Bosch*.	6-8

For abbreviations see pages 404-405.

Specifications (Continued)

TRANSMISSION																		RUNNING GEAR										
Clutch		Gearset					Universals		Rear Axle									Brakes				Steering Gear		Wheels			MAKE AND MODEL
Make	Type	Make	Model	Type	Location	No. For. Spds.	Make	Type	Make	Model	Type of Axle or Jackshaft	Propulsion Taken By	Torque Taken By	Final Drive	Gear Reduct.	Foot Type and Location	Hand Type and Location	Springs Rear Type	Front Axle Make	Make	Type	Make	Type	Frame Making	
B-L..	MDD.	B-L..	35	SG..	SU..	3	Univ..	M..	Timk..	6352	½F..	RR..	SP..	W..	7.20	Int-RW	Int-RW	½Ell..	Timk..	Ross.	W&W.	StM..	Art..	Detr..	**Signal** NF
B-L..	MDD.	B-L..	35	SG..	SU..	4	Spicer.	M..	Timk..	6460	½F..	RR..	SP..	W..	7.75	Int-RW	Int-RW	½Ell..	Timk..	Ross.	W&W.	StM..	Art..	Savage.	**Signal** H
B-L..	MDD.	B-L..	50	SG..	SU..	4	Spicer.	M..	Timk..	6560	F..	RR..	SP..	W..	9.25	Int-RW	Int-RW	½Ell..	Timk..	Ross.	W&W.	StM..	Art..	Savage.	**Signal** J
B-L..	MDD.	B-L..	60	SG..	SU..	4	Spicer.	M..	Timk..	6660	F..	RR..	SP..	W..	12.00	Int-RW	Int-RW	½Ell..	Timk..	Ross.	W&W.	StM..	Art..	Savage.	**Signal** M
B-L..	MDD.	B-L..	60	SG..	SU..	4	Spicer.	M..	Timk..	6760	F..	RR..	SP..	W..	11.33	Int-RW	Int-RW	½Ell..	Timk..	Ross.	W&W.	Dayton	CS..	Savage.	**Signal** R
B-L..	MDD.	B-L..	30	SG..	Un.E..	3	Spicer.	M..	Timk..	6250	½F..	SP..	SP..	W..	5.60	Int-RW	Int-RW	½Ell..	Timk..	Ross.	S&N..	Detr..	PS..	Detr..	**Standard** 75
B-L..	MDD.	B-L..	30	SG..	Un.E..	3	Spicer.	M..	Timk..	6352	½F..	RR..	SP..	W..	7.20	Int-RW	Int-RW	T½E..	Timk..	Ross.	S&N..		Art..	Detr..	**Standard** IK
B-L..	MDD.	B-L..	35	SG..	SU..	4	Spicer.	M..	Timk..	6560	F..	RR..	SP..	W..	8.50	Int-RW	Int-RW	½Ell..	Timk..	Ross.	S&N..	Dayton	CS..	Smith..	**Standard** K
B-L..	MDD.	B-L..	50	SG..	SU..	4	Spicer.	M..	Timk..	6666	F..	RR..	SP..	W..	10.33	Int-RW	Int-RW	½Ell..	Timk..	Gemm	W&W.	Dayton	CS..	Smith..	**Standard** K
B-L..	MDD.	B-L..	60	SG..	SU..	4	Spicer.	M..	Timk..	6760	F..	RR..	SP..	W..	11.66	Int-RW	Int-RW	½Ell..	Timk..	Gemm	W&W.	Dayton	CS..	Smith..	**Standard** K
B-L..	MDD.	B-L..	.....	SG..	Un.E..	4	Spicer.	M..	Timk..	6460	½F..	RR..	SP..	W..	7.00	Int-RW	Int-RW	½Ell..	Timk..	Ross.	W&N.	Prud..	Art..	Smith..	**Sterling**
B-L..	MDD.	B-L..	.....	SG..	Un.E..	4	Spicer.	M..	Timk..	6560	F..	RR..	SP..	W..	7.70	Int-RW	Int-RW	½Ell..	Timk..	Ross.	W&N.	Prud..	Art..	Smith..	**Sterling**
B-L..	MDD.	B-L..	.....	SG..	Un.E..	4	Spicer.	M..	Timk..	6560	F..	RR..	SP..	W..	7.70	Int-RW	Int-RW	½Ell..	Timk..	Ross.	W&N.	Prud..	Art..	Smith..	**Sterling**
H-S..	MDD.	Own..	.....	SG..	SU..	3	Spicer.	M..	Timk..	6660	F..	RR..	SP..	W..	8.75	Int-RW	Int-RW	½Ell..	Timk..	Ross.	W&N.	Prud..	Art..	Smith..	**Sterling**
H-S..	MDD.	Own..	.....	SG..	SU..	3	Spicer.	M..	Timk..	6760	F..	RR..	SP..	W..	8.80	Int-RW	Int-RW	½Ell..	Timk..	Ross.	W&N.	Prud..	Art..	Smith..	**Sterling**
H-S..	MDD.	Own..	.....	SG..	SU..	3	M&E.	F..	Own..	.....		RR..	SP..	Ch.	3.43	Int-RW	Ext-	½Ell..	Timk..	Ross.	W&N.	Smith.	CS..	Smith..	**Sterling**
H-S..	MDD.	Own..	.....	SG..	SU..	3	M&E.	F..	Own..	.....		RR..	SP..	Ch.	3.43	Int-RW	Ext-	½Ell..	Timk..	Ross.	W&N.	Smith.	CS..	Smith..	**Sterling**
	MDD.	Fuller.	SU1..	SG..	Un.E..	3	Spicer.	M..	Clark..	AW..	F..	.....	.....	IG..	6.75	Ext-RW	Ext-DS	½Ell..	Colum	Ross.	W&N.	Fires..	Art..	Hydr..	**Stewart** 15
B&B..	SP..	Durst.	2500B.	SG..	Un.E..	3	Spicer.	M..	Clark.	AW..	F..	.....	.....	IG..	.....	Ext-RW	Ext-DS	½Ell..	Colum	Ross.	S&N..	Fires..	Art..	Hydr..	**Stewart** 14X
.....	MDD.	Fuller.	LTU4.	SG..	Un.E..	3	Hart..	M..	Clark.	1D..	F..	.....	.....	IG..	7.60	Ext-RW	Ext-DS	½Ell..	Colum	Gemm	W&W.	Fires..	Art..	Hydr..	**Stewart** 9
.....	MDD.	Fuller.	GU5..	SG..	Un.E..	4	Hart..	M..	Clark.	2D..	F..	.....	.....	IG..	9.07	Ext-RW	Ext-DS	½Ell..	Colum	Ross.	W&N.	Clark..	CS..	Hydr..	**Stewart** 7X
.....	MDD.	Fuller.	GU6..	SG..	Un.E..	4	Spicer.	M..	Clark.	3D	F..	.....	.....	IG..	10.00	Ext-RW	Ext-DS	½Ell..	Colum	Ross.	W&N.	Clark.	CS..	Hydr..	**Stewart** 10X
Dell..	MDD.	Camp.	D21..	CS..	Un.E..	3	Therm	F..	Colum	52000	F..	SP..	SP..	SP.	5.20	Int-RW	Ext-RW	½Ell.	Colum	Lav..	S&N..	Royer.	Art..	Smith..	**Stoughton** C
B-L..	MDD.	B-L..	30	SG..	Un.E..	3	Therm	F..	Sheld..	W1001	½F..	RR.	SP..	W.	6.00	Int-RW	Int-RW	½Ell.	Sheld.	Lav..	S&N..	Royer.	Art..	Smith..	**Stoughton** A
B-L..	MDD.	B-L..	30	SG..	Un.E..	3	Therm	F..	Sheld..	W1501	½F..	RR.	SP..	W.	7.80	Int-RW	Int-RW	½Ell..	Sheld..	Lav..	S&N..	Royer.	Art..	Smith..	**Stoughton** B
B-L..	MDD.	B-L..	50	SG..	Un.E..	4	Therm	F..	Sheld..	W103	½F..	RR.	SP..	W..	8.66	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Royer.	Art..	Smith..	**Stoughton** D
B-L..	MDD.	B-L..	50	SG..	Un.E..	4	Therm	F..	Sheld..	W21	½F..	RR.	SP..	W..	8.75	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Royer.	Art..	Smith..	**Stoughton** F
Warn.	MDD.	Warn.	T38..	SG..	Un.E..	3	Snead.	F..	Eaton.	1000	½F..	SP..	SP..	SP.	5.12	Int-RW	Int-RW	½Ell..	Eaton.	Ross.	S&N..	Bimel.	Art..	Hydr..	**Thomart** 20
Fuller.	MDD.	Fuller.	TU3..	SG..	Un.E..	3	Peters.	M..	Sheld..	W103	½F..	RR.	SP..	W..	7.75	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Smith.	CS..	P&B..	**Tiffin** GW
Fuller.	MDD.	Fuller.	GU..	SG..	Un.E..	..	Peters.	M..	Sheld..	W21	½F..	RR.	SP..	W..	8.75	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Smith.	CS..	P&B..	**Tiffin** MW
Dell..	MDD.	Cotta.	R....	CM..	SU....	4	Peters.	M..	Sheld..	W31	F..	RR.	SP..	W..	.....	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Smith.	CS..	Own..	**Tiffin** F35
B&B..	SP....	Cotta.	S....	CM..	SU....	4	Peters.	M..	Sheld..	W51	½F..	RR.	SP..	W..	10.25	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Smith.	CS..	Own..	**Tiffin** TW
B&B..	SP....	Cotta.	S....	CM..	SU....	4	Peters.	M..	Sheld..	W51	½F..	RR.	SP..	W..	10.25	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Smith.	CS..	Own..	**Tiffin** UW
B&B..	SP....	Cotta.	RU..	CM..	Un.E..	4	.....	M..	Own..	.....	F..	RR.	SP.	DR.	8.50	Int-RW	Ext-DS	½Ell..	Wisc..	Lav..	S&N..	Smith.	CS..	Smith..	**Titan**
B&B..	SP....	Cotta.	RU..	CM..	Un.E..	4	.....	M..	Own..	.....	F..	RR.	SP.	DR.	.....	Int-RW	Ext-DS	½Ell..	Shul.	Lav..	S&N..	Smith.	CS..	Smith..	**Titan**
B&B..	SP....	Cotta.	SU..	CM..	Un.E..	4	.....	M..	Own..	.....	F..	RR.	SP.	DR.	.....	Int-RW	Ext-DS	½Ell..	Shul.	Lav..	S&N..	Smith.	CS..	Smith..	**Titan**
Covert	MDD.	Covert	MUNC	SG..	Un.E..	3	Therm	F..	Russel	3000	½F..	SP..	SP.	IG.	6.15	Ext-RW	Int-RW	½Ell..	Own..	Own.	W&W.	Dayton	Art..	Own..	**Traffic** Speedway
Covert	MDD.	Covert	MUNC	SG..	Un.E..	3	Univ..	M..	Russel	3000	½F..	SP..	SP.	IG.	7.00	Ext-RW	Int-RW	½Ell..	Own..	Own.	W&W.	Bimel.	Art..	Own..	**Traffic**
Covert	MDD.	Covert	MUNC	SG..	Un.E..	3	Univ..	M..	Russel	6000	½F..	SP..	SP.	IG.	8.80	Ext-RW	Int-RW	½Ell..	Own..	Own.	W&W.	Bimel.	Art..	Own..	**Traffic**
Fuller.	MDD.	Fuller.	SU1..	SG..	Un.E..	3	Snead.	F..	Colum	51023	½F..	SP..	SP.	SP.	5.10	Ext-RW	Int-RW	½Ell..	Colum	Lav..	S&N..	Motor.	Art..	Smith.	**Transport** 15
Fuller.	MDD.	Fuller.	TU½..	SG..	Un.E..	3	Snead.	F..	Clark.	1D	F..	SP.	SP.	IG.	7.25	Ext-RW	Int-RW	½Ell..	Colum	Jacox.	S&N..	Motor.	Art..	Detr..	**Transport** 25
Fuller.	MDD.	Fuller.	GU..	SG..	Un.E..	4	Hart..	M..	Clark.	1D	F..	RR.	SP.	IG.	7.60	Ext-DS	Int-RW	½Ell..	Colum	Jacox.	S&N..	Motor.	Art..	Detr..	**Transport** 35
Fuller.	MDD.	Fuller.	GU7..	SG..	Un.E..	4	Hart..	M..	Clark.	2D	F..	RR.	SP.	IG.	8.15	Ext-DS	Int-RW	½Ell..	Colum	Jacox.	S&N..	Motor.	Art..	Detr..	**Transport** 55
Fuller.	MDD.	Fuller.	GU7..	SG..	Un.E..	4	Hart..	M..	Clark.	2F	F..	RR.	SP.	IG.	8.15	Ext-DS	Int-RW	½Ell..	Hart..	Jacox.	S&N..	Motor.	Art..	Detr..	**Transport** 60
B&B.	SP....	Cotta.	RU..	SG..	Un.E..	4	Hart..	M..	Clark.	3D	F..	RR.	SP.	IG.	10.00	Ext-DS	Int-RW	½Ell..	Shul.	Jacox.	S&N..	Clark.	CS..	Detr..	**Transport** 75
Covert	MDD.	Covert	.....	SG..	Un.E..	3	M&E.	M..	Sheld..	W1501	½F..	RR.	SP.	W.	7.80	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Schwa.	Art..	Savage.	**Traylor** B
Covert	MDD.	Covert	.....	SG..	Un.E..	3	M&E.	M..	Sheld..	W103	½F..	RR.	SP.	W.	7.80	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Schwa.	Art..	Savage.	**Traylor** C
Own..	SP....	Own..	.....	SG..	Un.E..	4	Hart..	M..	Sheld..	W21	½F..	RR.	SP.	W.	7.75	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Schwa.	Art..	Savage.	**Traylor** D
B-L..	MDD.	B-L.	.....	SG..	Un.E..	4	Spicer.	M..	Sheld.	W32		RR.	SP.	W.	10.25	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N..	Smith.	CS..	Savage.	**Traylor** F
Fuller.	MDD.	Fuller.	LTU4.	SG..	Un.E..	3	Univ..	M..	Clark.	B360	½F..	SP.	SP.	IG.	6.25	Int-RW	Ext-RW	½Ell..	Torb..	Gemm	W&W.	North..	Art..	Mason.	**Triangle** AA
Fuller.	MDD.	Fuller.	LTU5.	SG..	Un.E..	3	Univ..	M..	Clark.	1D	F..	SP.	SP.	IG.	7.25	Ext-DS	Ext-RW	½Ell..	Colum	Gemm	W&W.	North.	Art..	Mason.	**Triangle** A
Fuller.	MDD.	Fuller.	LTU5.	SG..	Un.E..	3	Univ..	M..	Clark.	2D.	F..	SP.	SP.	IG.	9.00	Ext-DS	Ext-RW	½Ell..	Torb..	Gemm	W&W.	North.	Art..	Mason.	**Triangle** B
Fuller.	MDD.	Fuller.	GU7..	SG..	Un.E..	4	Blood	M..	Clark.	2D	F..	SP.	SP.	IG.	9.00	Ext-DS	Ext-RW	½Ell..	Torb..	Gemm	W&W.	North.	Art..	Mason.	**Triangle** C
B-L..	MDD.	B-L..	35	SG..	Un.E..	4	Spicer.	M..	Sheld..	W103	½F..	RR.	SP.	W..	6.50	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	W&W.	Jones.	Art..	Parish..	**Ultimate** AJL
B-L..	MDD.	B-L..	50	SG..	Un.E..	4	Spicer.	M..	Sheld..	W21	½F..	RR.	SP.	W..	7.75	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	W&W.	Jones.	Art..	Parish..	**Ultimate** B
B-L..	MDD.	B-L..	60	SG..	SU..	4	Spicer.	M..	Sheld..	W51	½F..	RR.	SP.	W.	8.75	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	W&W.	Smith.	CS..	Parish..	**Ultimate** D
Fuller.	MDD.	Fuller.	F....	SG..	Un.E..	4	Spicer.	M..	Colum	31000	½F..	SP.	SP.	SP.	5.85	Ext-RW	Int-RW	½Ell..	Colum	Lav..	S&N..	Bimel.	Art..	.....	**United** Highway 15
B-L..	MDD.	B-L..	30	SG..	Un.E..	4	Spicer.	M..	Colum	52000	F..	SP.	SP.	SP.	.....	Ext-RW	Int-RW	½Ell..	Colum	Lav..	S&N..	Bimel.	Art..	.....	**United** 30
B-L..	MDD.	B-L..	30	SG..	Un.E..	4	Spicer.	M..	Wisc..	50	½F..	RR.	SP.	DR.	7.00	Int-RW	Int-RW	½Ell..	Colum	Lav..	S&N..	Bimel.	Art..	.....	**United** 35
B-L.	MDD.	B-L.	35	SG..	Un.E.	5	Spicer.	M..	Wisc..	60	½F..	RR.	SP.	DR.	7.00	Int-RW	Int-RW	½Ell..	Shul..	Lav..	S&N..	Bimel.	Art..	.....	**United** 50
Fuller.	MDD.	Fuller.	SU1..	SG..	Un.E..	3	Blood.	M..	Clark.	B	½F..	SP.	SP.	SP.	6.25	Ext-RW	Int-RW	½Ell..	Shul..	Lav..	S&N.	Schwa.	Art..	Own..	**United States** U
Fuller.	MDD.	Fuller.	LTU4.	SG..	Un.E..	3	Blood.	M..	Clark.	1D	½F..	SP.	SP.	IG.	7.60	Ext-RW	Int-RW	½Ell..	Shul..	Lav..	S&N.	Schwa.	Art..	Own..	**United States** N
Fuller.	MDD.	Fuller.	LTU4.	SG..	Un.E..	3	Blood.	M..	Sheld.	W1501	½F..	SP.	SP.	W.	7.80	Int-RW	Int-RW	½Ell..	Shul..	Lav..	S&N.	Schwa.	Art..	Own..	**United States** NW
B-L..	MDD.	B-L..	51	SG..	SU..	4	Blood.	M..	Sheld.	W21	½F..	SP.	SP.	W.	8.70	Int-RW	Int-RW	½Ell..	Sheld..	Lav..	S&N.	Schwa.	Art..	Own..	**United States** R
B-L..	MDD.	B-L..	55	SG..	SU..	4	Blood.	M..	Sheld.	W31	½F..	SP.	SP.	W.	10.25	Int-RW	Int-RW	½Ell..	Sheld..	Lav..	S&N.	Schwa.	Art..	Own..	**United States** S
B-L..	MDD.	B-L..	60	SG..	SU..	4	Blood.	M..	Sheld.	W51	½F..	SP.	SP.	W.	10.25	Int-RW	Ext-DS	½Ell..	Sheld..	Lav..	S&N.	Smith.	CS..	Own..	**United States** T
B&B.	SP....	Durs.	.....	SG..	Un.E..	3	Arvac.	M..	Torb..	C2	.....	SP.	SP.	IG.	8.10	Ext-RW	Int-RW	½Ell..	Colum	Ross.	S&N.	Mutual.	Wood.	Hydr..	**Velie** 46
Fuller.	MDD.	Fuller.	LTU4.	SG..	Un.E..	3	Spicer.	M..	Timk..	6352	½F..	SP.	SP.	W.	7.20	Int-RW	Int-RW	½Ell..	Timk..	Ross.	S&N.	Jones.	Art..	Parish..	**Walker-Johnson** L
.....	MDD.	Fuller.	G7....	SG..	SU....	4	Spicer.	M..	Timk..	6560	F..	SP.	SP.	W.	8.50	Int-RW	Int-RW	½Ell..	Timk..	Ross.	S&N.	Jones.	Art..	Own..	**Walker-Johnson** B
B-L..	MDD.	B-L..	50	SG..	Un.E..	4	Own..	M..	Own..	.....	F..	SP.	SP.	DR.	7.25	Ext-DS	Int-RW	½Ell..	Cont..	Gemm	W&W.	Jones.	Art..	Sharon.	**Walter** M
B-L..	MDD.	Warn.	T53..	SG..	SU..	4	M&E.	M..	Own..	.....	F..	SP.	SP.	DR.	9.00	Ext-DS	Ext-RW	½Ell..	Own..	Ross.	S&N.	Dayton	CS..	Sharon.	**Walter** S
B-L..	MDD.	B-L..	30	SG..	Un.E..	3	Spicer.	M..	Timk..	6250	½F..	SP.	SP.	W.	6.25	Int-RW	Int-RW	½Ell..	Colum	Lav..	S&N.	.....	CS..	Parish.	**Watson** D
Fuller.	MDD.	Fuller.	TU3..	SG..	Un.E..	3	Spicer.	M..	Wisc..	800	½F..	SP.	SP.	W.	7.25	Int-RW	Int-RW	½Ell..	Shul..	Lav..	S&N.	Prud..	Art..	Own..	**Western** W
Fuller.	MDD.	Fuller.	TU3..	SG..	Un.E..	3	Spicer.	M..	Timk..	6460	½F..	SP.	SP.	W.	7.00	Int-RW	Int-RW	½Ell..	Timk..	Ross.	S&N.	Prud..	Art..	Savage.	**Western** L
Fuller.	MDD.	Fuller.	G5....	SG..	Un.E..	4	Spicer.	M..	Timk..	6560	F..	SP.	SP.	W.	7.75	Int-RW	Int-RW	½Ell..	Timk..	Ross.	S&N.	Prud..	Art..	Savage.	**Western** L
Fuller.	MDD.	Fuller.	G5....	SG..	Un.E..	4	Spicer.	M..	Wisc..	900C	½F..	SP.	SP.	W.	8.50	Int-RW	Int-RW	½Ell..	Shul.	Lav..	S&N.	Prud..	Art..	Own..	**Western** W
Fuller.	MDD.	Fuller.	G7....	SG..	SU....	4	Spicer.	M..	Timk..	6660	F..	RR.	SP.	W.	10.33	Int-RW	Int-RW	½Ell..	Timk..	Ross.	S&N.	Prud..	Art..	Own..	**Western** W
Own..	SP....	Own..	.....	SG..	SU....		Own..	F..	Own..	.....	½F..	RR.	SP.	SB.	5.36	Ext-RW	Int-RW	½Ell..	Own..	Own.	W&S.	.....	Art..	.....	**White** 15
Own..	SP....	Own..	.....	SG..	SU....		Own..	M..	Own..	.....	½F..	RR.	SP.	DR.	9.25	Ext-RW	Int-RW	½Ell..	Own..	Own.	W&S.	.....	CS..	.....	**White** 20
Own..	SP....	Own..	.....	SG..	SU....	4	Own..	M..	Own..	.....	F..	RR.	SP.	DR.	11.60	Ext-RW	Int-RW	½Ell..	Own..	Own.	W&S.	.....	CS..	Own..	**White** 40
Own..	SP....	Own..	.....	SG..	Un.E.	4	Own..	M..	Own..	.....	F..	RR.	SP.	DR.	11.60	Ext-RW	Int-RW	½Ell..	Own..	Own.	W&S.	.....	CS..	Own..	**White** 45
Own..	Cone..	B-L..	35	SG..	SU....	4	Own..	F..	Sheld..	W1500	½F..	SP.	SP.	W.	7.80	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N.	Bimel.	Art..	Own..	**‡‡Wichita** K
Own..	Cone..	B-L..	35	SG..	SU....	4	Own..	F..	Sheld..	W103	½F..	SP.	SP.	W.	8.60	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N.	Bimel.	Art..	Own..	**‡‡Wichita** M
Hart..	Cone..	B-L..	50	SG..	SU....	4	Own..	F..	Sheld..	W21	½F..	SP.	SP.	W.	8.75	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N	Dayton	CS..	Own..	**‡‡Wichita** RX
Hart..	Cone.	B-L.	50	SG..	SU....	4	Own..	F..	Sheld..	W30	½F..	SP.	SP.	W.	11.75	Int-RW	Int-RW	½Ell..	Sheld..	Ross.	S&N.	Smith.	CS..	Own..	**‡‡Wichita** O
B-L..	MDD.	B-L..	30	SG..	Un.E.	3	Spicer.	M..	Russel	3600B	½F..	RR.	TA.	SB.	5.25	Int-RW	Int-RW	½Ell..	Shul.	Gemm	W&W.	Bimel.	Art..	Smith..	**Wilcox** AA
B&B.	SP....	Own..	.....	SG..	SU....	4	Blood.	M..	Walh..	2A	F..	RR.	TA.	DR.	7.90	Ext-DS	Int-RW	½Ell..	Shul.	Own.	W&W.	.....	CS..	Smith..	**Wilcox** BB
B&B.	SP....	Own..	.....	SG..	SU....	4	Blood.	M..	Walh..	25A	F..	RR.	TA.	DR.	8.50	Ext-DS	Int-RW	½Ell..	Shul.	Own.	W&W.	Clark.	CS..	Smith..	**Wilcox** CC
M&E.	MDD.	Own..	.....	SG..	SU....	4	Spicer.	M..	Walh..	5A	F..	RR.	TA.	DR.	10.50	Ext-DS	Int-RW	½Ell..	Sheld..	Own.	W&W.	Clark.	CS..	Smith..	**Wilcox** EE
M&E.	MDD.	Own..	.....	SG..	SU....	4	Spicer.	M..	Walh..	5A	F..	RR.	TA.	DR.	11.50	Ext-DS	Int-RW	½Ell..	Sheld..	Own.	W&W.	Clark.	CS..	Smith..	**Wilcox** F
B&B.	SP....	Cotta.	.....	CM..	SU....	4	Hart..	F..	Timk..	6460	½F..	SP.	SP.	W.	6.00	Int-RW	Int-RW	½Ell..	Timk..	Lav..	S&N.	Bimel.	.....	Own..	**Wilson** F
B&B.	SP....	Cotta.	.....	CM..	SU....	4	Hart..	F..	Timk..	6560	F..	SP.	SP.	W.	7.75	Int-RW	Int-RW	½Ell..	Timk..	Ross.	S&N.	Bimel.	.....	Own..	**Wilson** EA
B&B.	SP....	Cotta.	R....	CM..	.....		Hart..	F..	Timk..	6660	F..	SP.	SP.	W.	8.75	Int-RW	Int-RW	½Ell..	Timk..	Ross.	S&N.	Smith.	.....	Own..	**Wilson** G
B&B.	SP....	Cotta.	S....	CM..	SU....	4	Hart..	F..	Timk..	6752	F..	SP.	SP.	W.	10.25	Int-RW	Int-RW	½Ell..	Timk..	Ross.	S&N.	Smith.	.....	Own..	**Wilson** H
B-L..	MDD.	B-L..	35	SG..	SU....	4	Spicer.	M..	Timk..	6560	F..	RR.	SP.	W.	8.50	Int-RW	Int-RW	.....	Timk..	Ross.	S&N.	Bimel.	Art..	Own..	**Winter & Hirsh** K
B-L..	MDD.	B-L..	50	SG..	SU....	4	Spicer.	M..	Timk..	6660	F..	RR.	SP.	W.	10.33	Int-RW	Int-RW	.....	Timk..	Ross.	S&N.	Bimel.	Art..	Own..	**Winter & Hirsh** L

American Gasoline Truck

MAKE AND MODEL	GENERAL					ENGINE													ELECTRICAL SYSTEM				
	Tons Capacity	Standard Wheelbase (Ins.)	Standard Tire Size and Type: Front	Standard Tire Size and Type: Rear	Chassis Weight (Lbs.)	Make	No. of Cylinders Bore and Stroke	Point Suspension	Cylinder Head	No. of Cyls. per C'stg.	Valve Arrangement	Water Circulation	Oiling System	Fuel System: Carbureter Make	Fuel System: Fuel Feed	Governor: Make	Governor: Type	Max. Gov. Speeds: In. R. P. M. of Engine	Max. Gov. Speeds: In M. P. H. of Truck	Ignition System: Make	Ignition System: Current Sources	Generator Make	Starter Make	Voltage
Winther 751	¾	135	P-34x4½	P-35x5	2700	H-S.	4-3½x5	3	Det.	4	"L"H.	Th-S.	Sp.Pr.	Strom.	Vac.			1600	30	West.	Bat.	West.	West.	6-8
Winther 752	1	135	P-34x5	P-34x5	3300	Wisc.	4-4 x5	3	Det.	4	IH.	Pump.	Press.	Strom.	Vac.			1400	20	A-L.	Bat.	A-L.	A-L.	6-8
Winther 39	1½	140	S-34x3½	S-34x5	3700	Wisc.	4-3½x5	3	Int.	4	"L"H.	Pump.	Press.	Strom.	Grav.			1400	15	Eisem.	Mag.	Opt.*	Opt.*	6-8
Winther 430	1½-2	132	S-32x4	S-32x4	4125	Wisc.	4-3½x5	3	Int.	4	"L"H.	Pump.	Press.	Strom.	Grav.					Eisem.	Mag.	West*.	West*.	6-8
Winther 51	2½	150	S-36x4	S-36x4d	5600	Wisc.	4-4 x6	3	Det.	4	"L"H.	Pump.	Press.	Master.	Vac.			1250	18	Eisem.	Mag.	Opt.*	Opt.*	6-8
Winther 452	2½	150	S-36x6	S-36x5d	4125	Wisc.	4-4 x6	3	Det.	4	"L"H.	Pump.	Press.	Master.	Vac.			1400	13	Eisem.	Mag.	West*.	West*.	6-8
Winther 70	3½	150	S-36x5	S-36x5d	6400	Wisc.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Master.	Vac.			1250	15	Eisem.	Mag.	West*.	West*.	6-8
Winther 109	5	162	S-36x5	S-40x6d	8600	Wisc.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Master.	Vac.			1200	12	Eisem.	Mag.	West*.	West*.	6-8
Winther 140	7	162	S-36x6	S-40x7d	9500	Wisc.	4-5 x6	3	Det.	2	"L"H.	Pump.	Press.	Master.	Vac.			1000	10	Eisem.	Mag.	West*.	West*.	6-8
Wisconsin B	1	136	P-34x5	S-34x5	3000	Cont.	4-3½x5	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.					Bosch.	Bat.	Bosch.	Bosch.	6-8
Wisconsin C	1½	144	P-34x5	P-36x6	3300	Cont.	4-3½x5	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.					Bosch.	Bat.	Bosch.	Bosch.	6-8
Wisconsin D	2	146	S-*36x6	S-*38x7	4000	Wauk.	4-4 x5½	2	Det.	2	"L"H.	Pump.	Press.	Strom.	Vac.	Wauk.	Cent.	1800	18	Eisem.	Mag.	Bosch*	Bosch*	6-8
Wisconsin E	2½	146	S-*36x5	S-*36x10	5000	Wauk.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Press.	Strom.	Vac.	Wauk.	Cent.	1600	18	Eisem.	Mag.	Bosch*.	Bosch.	6-8
Witt-Will N	1½	144	S-*36x3½	S-*36x5	4000	Cont.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Zenith.	Vac.	Pierce.	Cent.	1000	25	Eisem.	Mag.			
Witt-Will P	2½	144	S-*36x4	S-*36x8	5100	Cont.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Zenith.	Grav.	Pierce.	Cent.	1000	25	Eisem.	Mag.	Eisem*.	Opt.*.	6-8
Yellow Cab M22	¾	117	P-33x4½	P-33x4½	2400	Cont.	4-3½x5	3	Int.	4	"L"H.	Th-S.	Sp.Pr.	Zenith.	Grav.					Bosch.	Mag.			
Yellow Cab M42	1¼	130	P-35x5	P-35x5	2850	Cont.	4-3¾x5	3	Int.	4	"L"H	Th-S.	Sp.Pr.	Zenith.	Grav.					Bosch.	Mag.			
Atlas 22	1	130	P-34x4½	P-34x4½		Buda.	4-3⅞x5¼	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Zenith.	Vac.			1500		A-K.	Mag.	Bijur.	Bijur.	6-8
Atlas 44	1½-2	146	P-36x6	P-36x6		Buda.	4-3¾x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Zenith.	Vac.			1500		Split.	Mag.	A-K.	A-K.	6-8
‡‡**Facto**	2½	155	S-36x4	S-36x8		Buda.	4-4¼x5½	3	Det.	4	"L"H.	Pump.		Zenith.	Grav.	Pierce.	Cent.	1300	18		Mag.	West*.	*.	6-8
‡‡**Gersix** K	2½	150	S-36x4	S-36x8		Buda.	4-4¼x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.	Mon.	Suc.	1320	15	Bosch.	Mag.	G&D*.	G&D.	6-8
Hurlburt AA	1-1½	148	P-34x5	P-34x5			4-3½x5		Det.	4	"L"H.	Pump.		Zenith.	Grav.						Bat.	A-L.	A-L.	6-8
Hurlburt BB	2-2½	148	S-36x4	S-36x4d		Buda.	4-4½x5½		Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex.				Eisem.	Mag.	A-L.		6-8
Hurlburt CC	3-3½	170	S-36x5	S-36x5d		Buda.	4-4½x5½		Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex.				Eisem.	Mag.	A-L.		6-8
Hurlburt DD	4-4½	170	S-36x5	S-36x6d		Buda.	4-4½x6		Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex.				Eisem.	Mag.	A-L.		6-8
Hurlburt EE	6-6½	170	S-36x6	S-40x6d		Buda.	4-4¾x6½		Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex.				Eisem.	Mag.	A-L.		6-8
Moreland RR	1	132	P-34x5	P-34x5	3350	Herc.	4-4x5	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.					A-L.	Bat.	A-L.	A-L.	6-8
‡‡**Sandow** G	1	120	S-*34x3½	S-*34x5		Cont.	4-3½x5	3	Int.	4	"L"H.	Ther-S	Spl.	Strom.	Grav.			1400	25	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
‡‡**Sandow** CG	1½	135	S-*34x4	S-*35x5		Cont.	4-3½x5	3	Int.	4	"L"H.	Ther-S	Spl.	Strom.	Grav.			1400	22	Bosch.	Mag.	Bosch*.	Bosch*.	6-8
‡‡**Sandow** J	2½	165	S-*36x4	S-36x7		Cont.	4-4¼x5½	3	Int.	4	"L"H.	Pump.	Spl.	Strom.	Grav.	Mon.	Suc.	1100	15	Bosch.	Mag.	Bosch*.	Bosch*	6-8
‡‡**Sandow** M	3½	175	S-*36x5	S-*36x5d		Cont.	4-4¼x5½	3	Int.	4	"L"H.	Pump.	Spl.	Strom.	Grav.	Mon.	Suc.	1200	14		Mag.			
‡‡**Sandow** L	5	175	S-*36x6	S-*36x6d		Cont.	4-4¼x5½	3	Int.	4	"L"H.	Pump.	Spl.	Strom.	Grav.	Mon.	Suc.	1100	12		Mag.			
‡‡**Schwartz** A	1½	130	P-34x4½	P-34x4½		Lycom	4-3½x5	3	Det.	4	"L"H.	Ther-S	Spl.	Carter.	Vac.			1800	30	West.	Bat.	West.	West.	6-8
‡‡**Schwartz** B2W	2	140	S-34x3½	S-34x6		Buda.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Mon.	Suc.	1450	18	Bosch.	Mag.	G&D.		6-8
‡‡**Schwartz** C2W	3	150	S-36x4	S-36x8		Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Mon.	Suc.	1308	16	Bosch.	Mag.	G&D.		6-8
‡‡**Schwartz** DW	5	170	S-36x6	S-36x12		Buda.	4-4¼x6	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Grav.	Duplex.	Suc.	1200	14	Bosch.	Mag.	G&D.		6-8
‡‡**Sullivan** L	2	150	S-36x4	S-36x7		Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.					Bosch.	Mag.			
‡‡**Sullivan** H	3½	156	S-36x5	S-36x5d		Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Strom.	Vac.	Pierce.	Cent.	1350	14		Mag.			
‡‡**Super Truck** 50	2½	156	S-36x4	S-36x8		Wisc.	4-4x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex.	Cent.	1100	12		Mag.	Vesta.		6-8
‡‡**Super Truck** 70	3½	164	S-36x5	S-40x5d		Wisc.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex.	Cent.	1100	11	Bosch.	Mag.	Vesta.		6-8
‡‡**Super Truck** 100	5	164	S-36x5	S-40x12		Wisc.	4-4¾x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Grav.	Duplex.	Cent.	1100	11		Mag.	Vesta.		6-8
‡‡**Vim** 29	½	108	P-31x4	P-31x4		Own.	4-3½x4½	3	Det.	4	"L"H.	Ther-S	Spl.	Zenith.	Grav.			2000	33		Bat.	West.	West.	6-8
‡‡**Vim** 30	½	127	P-32x4½	P-32x4½		Own.		3	Det.	4	"L"H.	Ther-S	Spl.	Zenith.	Grav.			2000	33		Bat.	West.	West.	6-8
‡‡**Vim** 31	1	125	P-35x5	P-35x5		Herc.	4-3¾x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Zenith.	Grav.			1800	30	Split.	Mag.	West.	West.	6-8
‡‡**Vim** 23	3	175	S-36x5	S-36x5		Herc.	4-4¼x5½	4	Det.	4	"L"H.	Pump.	Fl.Pr.	Zenith.	Grav.	Duplex.	Suc.	1250	14	Split.	Mag.			6-8

CANADIAN

Gotfredson 20	¾-1	131	P-34x5	P-34x5	3250	Buda.	4-3¾x5¼	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.					Bosch.	Bat.	A-K.	A-K.	6-8
Gotfredson 31	1½-2	144	P-36x6	P-38x7	4000	Hink.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.					Bosch.	Mag.	Bosch.	Bosch.	6-8
Gotfredson 80	4					Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	Pharo.				Bosch.	Mag.	A-K.		6-8
Gotfredson 100	5	166½	S-36x6	S-40x14		Buda.	4-5 x6½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	Pharo.		1100	10	Bosch.	Mag.	A-K.		6-8
Mapleleaf Exp	1½	144	P-34x5	P-36x6	4000	Hink.	4-3¾x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Hink.	Cent.	1200	25	Eisem.	Mag.	West*.	West*.	6-8
Mapleleaf AA	2	144	S-36x4	S-36x7	4750	Hink.	4-4 x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Hink.	Cent.	1200	18	Eisem.	Mag.	West*.	West*.	6-8
Mapleleaf BB	3	150	S-36x4	S-36x8	5650	Hink.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Hink.	Cent.	1200	16	Eisem.	Mag.			
Mapleleaf CC	4	160	S-36x5	S-36x10	7100	Hink.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Fl.Pr.	Strom.	Vac.	Hink.	Cent.	1200	12½	Eisem.	Mag.			
Mapleleaf DD	5	160	S-36x6	S-36x12	8700	Hink.	4-4½x5½	3	Det.	4	IH.	Pump.	Press.	Strom.	Vac.	Hink.	Cent.	1200	11	Eisem.	Mag.			
National FA	1	136	P-35x5	P-35x5	3350	Wauk.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Spl.	Zenith.	Grav.	Wauk.	Cent.	1300	22	Eisem.	Mag.	N.E*.	N.E*.	6-8
National GA	1½	140	S-*34x4	S-*34x5	3850	Wauk.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Spl.	Zenith.	Grav.	Wauk.	Cent.	1300	19	Eisem.	Mag.	N.E*.	N.E*.	6-8
National HDB	2½	152	S-36x4	S-36x8	5200	Wauk.	4-4½x5½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Grav.	Wauk.	Cent.	1400	19	Eisem.	Mag.	N.E*.	N.E*.	6-8
National NBA	3½	164	S-36x5	S-40x10	7640	Wauk.	4-4½x6½	3	Det.	2	"L"H.	Pump.	Press.	Zenith.	Grav.	Wauk.	Cent.	1400	19	Eisem.	Mag.	N.E*.	N.E*.	6-8
National OA	5	164	S-36x6	S-40x12	9500	Wauk.	4-5 x6¼	3	Det.	2	"L' H.	Pump.	Press.	Zenith.	Grav.	Wauk.	Cent.	1400	16	Eisem.	Mag.	N.E*.	N.E*.	6-8
‡‡**Veteran** E	1-1½	186	P-34x5	P-34x5	3500	Buda.	4-3½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	Duplex.	Cent.		20		Mag.			
‡‡**Veteran** A	2-2½	156	S-36x4	S-36x7	4000	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	Duplex.	Cent.		18	Eisem.	Mag.			
‡‡**Veteran** D	2½	156	S-36x4	S-36x7	4400	Buda.	4-4½x5½	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	Duplex.	Cent.	1000	18	Eisem.	Mag.			
‡‡**Veteran** H	3½-4	156	S-36x5	S-36x10		Buda.	4-4½x6	3	Det.	4	"L"H.	Pump.	Press.	Zenith.	Vac.	Duplex.	Cent.	1000	14	Eisem.	Mag.			

ABBREVIATIONS:
*—Weight with Trailers
‡‡—Taken from 1922 Specifications

TIRE SIZE:
S—Solid
P—Pneumatic
C—Cushion
S*—Pneumatics Optional at extra cost
d—Dual

ENGINE:
Midw—Midwest
Cont—Continental
Weid—Weideley
Wisc—Wisconsin
Wauk—Waukesha
Herc—Hercules
H-S—Herschell-Spillman
Lycom—Lycoming
Det—Detachable
Int—Integral
I. H.—Both Valves in Head
"L" H—"L" Head
"F" H—"F" Head
"T" H—"T" Head
Th-S—Thermo-Siphon
Sp. Pr.—Splash with Pressure to Main Crankshaft Bearings
Press—Pressure to all Crankshaft Bearings excluding Wrist Pins
Fl. Pr.—Full Pressure to all bearings including wrist pins
John—Johnson
Ray—Rayfield
Strom—Stromberg
Scheb—Schebler
Stew—Stewart
Tillot—Tillotson
Press—Pressure
Vac—Vacuum
Grav—Gravity
Mon—Monarch
McC—McCanna
Cent—Centrifugal
Hydr—Hydraulic
Suc—Suction

ELECTRICAL SYSTEM:
A-K—Atwater-Kent
A-L—Auto-Lite
Conn—Connecticut
Dyn—Dyneto
Eisem—Eisemann
G. & D.—Gray & Davis
L-N—Leece-Neville
N. E.—North East
Split—Splitdorf
West—Westinghouse
***Opt**—Optional at extra cost
Mag—Magneto
Bat—Battery

TRANSMISSION:
B. & B.—Borg & Beck
B-L—Brown-Lipe
Camp—Campbell
Detl—Detlaff
Detr—Detroit
Durs—Durston
G-L—Grant-Lees
Mech—Mechanics
Twin D—Twin Disc
H-S—Hele-Shaw
Warn—Warner
M. D. D.—Multiple Dry Disk
M. D. O.—Multiple Disk in Oil
S. P.—Single Plate
C. M.—Constant Mesh
S. G.—Sliding Gear
Pl—Planetary

Electric Truck Specifications on pages 434-435.

Specifications (Continued)

TRANSMISSION																RUNNING GEAR									
Clutch		Gearset					Universals		Rear Axle							Brakes				Steering Gear		Wheels			MAKE AND MODEL
Make	Type	Make	Model	Type	Location	No. For. Spds.	Make	Type	Make	Model	Type of Axle or Jackshaft	Propulsion Taken By	Torque Taken By	Final Drive	Gear Reduct.	Foot Type and Location	Hand Type and Location	Springs Rear Type	Front Axle Make	Make	Type	Make	Type	Frame Make	
Warn.	MDD.	Warn.	T60.	SG.	Un.E.	3	Peters.	M.	Torb.	OX2L	F.	SP.	SP.	IG.	6.60	Ex-RW	Ext-DS	½Ell.	Torb.	Lav.	S&N.	Prud.	Art.	Own.	**Winther 751**
Fuller.	MDD.	Fuller.	TU¾	SG.	Un.E.	3	Peters.	M.	Timk.	6250	½F.	SP.	SP.	W.	6.25	Int-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Bimel.	Art.	P&B.	**Winther 752**
Fuller.	MDD.	Fuller.	TU¾	SG.	Un.E.	3	Arvac.	M.	Own.		F.	SP.	SP.	IG.	6.80	Ex-RW	Ext-DS	½Ell.	Colum	Lav.	S&N.	Own.	CS.	Own.	**Winther 39**
Fuller.	MDD.	Fuller.	LTU4.	SG.	Un.E.		Peters.	M.	Own.		F.	SP.	SP.	IG.	8.80	Ex-RW	Ext-DS	½Ell.	Own.	Lav.	S&N.	Own.	CS.	Own.	**Winther 430**
B&B.	SP.	B-L.	51	SG.	SU.	4	Blood.	M.	Clark.	2D.	F.	SP.	SP.	IG.	8.80	Ex-RW	Int-RW	½Ell.	Torb.	Ross.	S&N.	Own.	CS.	Own.	**Winther 51**
Fuller.	MDD.	Fuller.		SG.	Un.E.	3	Peters.	M.	Clark.	2D	F.	SP.	SP.	IG.		Ext-DS	Ext-DS	½Ell.	Own.	Lav.	S&N.	Own.	CS.	Own.	**Winther 452**
B&B.	SP.	B-L.	55	SG.	Un.E.	4	Blood.	M.	Clark.	3D	F.	SP.	SP.	IG.	9.00	Ex-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Clark.	CS.	Own.	**Winther 70**
B&B.	SP.	B-L.	60	SG.	SU.	4	Blood.	M.	Clark.	4D	F.	SP.	SP.	IG.	11.00	Ex-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Clark.	CS.	Own.	**Winther 109**
B&B.	SP.	B-L.	60	SG.	SU.	4	Blood.	M.	Clark.	5D	F.	SP.	SP.	IG.	11.00	Ex-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Clark.	CS.	Own.	**Winther 140**
B-L.	MDD.	B-L.	30	SG.	Un.E.	3	Spicer.	M.	Timk.		¾F.	SP.	SP.	W.	6.75	Int-RW	Int-RW	½Ell.	Cont.	Lav.	S&N.	Bimel.	Art.	Own.	**Wisconsin B**
B-L.	MDD.	B-L.		SG.	Un.E.	3	Spicer.	M.	Timk.		¾F.	SP.	SP.	W.	8.20	Int-RW	Int-RW	½Ell.	Cont.	Lav.	S&N.	Bimel.	Art.	Own.	**Wisconsin C**
B-L.	MDD.	B-L.		SG.	Un.E.		Spicer.	M.	Timk.		¾F.	SP.	SP.	W.	8.75	Int-RW	Int-RW	½Ell.	Cont.	Lav.	S&N.	Bimel.	Art.	Own.	**Wisconsin D**
B-L.	MDD.	B-L.		SG.	SU.	4	Spicer.	M.	Timk.		¾F.	RR	SP.	W.	8.75	Int-RW	Int-RW	½Ell.	Cont.	Lav.	S&N.	Bimel.	Art.	Own.	**Wisconsin E**
B-L.	MDD.	B-L.	35	SG.	Un.E.	4	Spicer.	M.	Timk.	6460	½F.	SP.	SP.	W.	7.00	Int-RW	Int-RW	½Ell.	Timk.	Ross.	W&S.	Arch.	Art.	Parish.	**Witt-Will N**
B-L.	MDD.	B-L.	50	SG.	Un.E.	4	Spicer.	M.	Timk.	6560	F.	SP.	SP.	W.	7.75	Int-RW	Int-RW	½Ell.	Timk.	Ross.	W&S.	Arch.	Art.	Parish.	**Witt-Will P**
B-L.	MDO.	B-L.	30	SG.	Un.E.	3	Spicer.	M.	Timk.	6752	½F.	SP.	SP.	SP.	4.90	Ex-RW	Ext-DS	½Ell.	Timk.	Gemm	W&W.		Art.	Smith.	**Yellow Cab M22**
B-L.	MDO.	B-L.	30	SG.	Un.E.	3	Spicer.	M.	Timk.	6352		SP.	SP.			Ex-RW	Ext-DS	½Ell.	Timk.	Gemm	W&W.		Art.	Smith.	**Yellow Cab M42**
B&B.	SP.	Own.		SG.	Un.E.	3	Spicer.	M.	Own.			SP.	SP.	W.	16.80	Ext-RW	Ext-DS	½Ell.		CAS.	W&W.	E&O.	Art.		**Atlas 22**
M&E.	MDD.	Own.		SG.	Un.E.		Spicer.	M.	Own.			SP.	SP.	W.	19.60	Ext-RW	Ext-DS	½Ell.		CAS.	W&W.	E&O.	Art.		**Atlas 44**
Fuller.	MDD.	Fuller.	G7.	SG.	SU.	4	Spicer.	M.	Timk.	6560	F.	SP.	SP.	W.	7.75	Int-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Smith.	CS.	P&B.	**‡‡Facto**
B&B.	MDD.	Cotta.		CM.	Un.E.	3	Blood.	M.	Own.		F.	SP.	SP.	W.	9.66	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Jones.	Art.	Own.	**‡‡Gersix K**
				SG.	Un.E.	3			Own.		½F.			W.	7.50			½Ell.							**Hurlburt AA**
				SG.	Un.E.	3			Own.		½F.			W.	7.50			½Ell.							**Hurlburt BB**
				SG.	SU.	4			Own.		F.			W.	8.66			½Ell.							**Hurlburt CC**
				SG.	SU.	4			Own.		F.			W.	8.66			½Ell.							**Hurlburt DD**
				SG.	SU.	4					F.			W.	8.00			½Ell.							**Hurlburt EE**
B-L.	MDD.	B-L.	30	SG.	Un.E.	3	Peters.	M.	Timk.	5512	½F.	RR.	SP.	W.		Ext-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Smith.	CS.	Smith.	**Moreland RR**
Fuller.	MDD.	Fuller.		SG.	Un.E.	3	Spicer.	M.	Timk.	6352	½F.	SP.	SP.	W.	7.20	Int-RW	Int-RW	½Ell.	Timk.	Ross.	W&S.	Stand.	Wood.	P&B.	**‡‡Sandow G**
Fuller.	MDD.	Fuller.		SG.	Un.E.	3	Spicer.	M.	Sheld.	FA500	½F.	SP.	SP.	W.	8.90	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	W&S.	Stand.	Wood.	P&B.	**‡‡Sandow CG**
B-L.	MDD.	B-L.	35	SG.	Un.E.	4	Spicer.	M.	Timk.	6560	F.	SP.	SP.	W.	9.24	Int-RW	Int-RW	½Ell.	Timk.	Ross.	W&S.		Wood.	P&B.	**‡‡Sandow J**
B-L.	MDD.	B-L.	50	SG.	SU.	4	Spicer.	M.	Timk.	6660	F.	SP.	SP.	W.	10.33	Int-RW	Int-RW	½Ell.	Timk.	Ross.	W&S.		Wood.	P&B.	**‡‡Sandow M**
B-L.	MDD.	B-L.	60	SG.			Spicer.	M.	Timk.	6760	F.	RR.	SP.	W.	11.66	Int-RW	Int-RW	½Ell.	Timk.	Ross.	W&S.		Wood.	P&B.	**‡‡Sandow L**
Fuller.	MDD.	Fuller.	SU-1.	SG.	Un.E.	3	M&E.	M.	Eaton.	1000	½F.	SP.	SP.	SP.	6.14	Int-RW	Int-RW	½Ell.	Shul.	Ross.	S&N.	Own.	Wood.	Parish.	**‡‡Schwartz A**
Fuller.	MDD.	Fuller.	GU-7.	SG.	Un.E.	4	M&E.	M.	Sheld.	W-1501	½F.	SP.	SP.	W.	8.75	Int-RW	Int-RW	½Ell.	Shul.	Ross.	S&N.	Own.	Wood.	Parish.	**‡‡Schwartz B2W**
Fuller.	MDD.	Fuller.	GU-7.	SG.	Un.E.	4	M&E.	M.	Sheld.	W21.	½F.	SP.	SP.	W.	8.15	Int-RW	Int-RW	½Ell.	Shul.	Ross.	S&N.	Own.	Wood.	Parish.	**‡‡Schwartz C2W**
Fuller.	MDD.	Fuller.	H.	SG.	SU.	4	M&E.	M.	Sheld.	W31	½F.	SP.	SP.	W.	10.25	Int-RW	Int-RW	½Ell.	Shul.	Ross.	S&N.	Smith.	CS.	Parish.	**‡‡Schwartz DW**
B-L.	MDD.	B-L.	35	SG.	Un.E.	4	Spicer.	M.	Timk.	6560	F.	SP.	SP.	W.	7.75	Int-RW	Int-RW	Ell.	Timk.	Ross.	S&N.	Wayne.	Wood.	P&B.	**‡‡Sullivan E**
B-L.	MDD.	B-L.	50	SG.	SU.	4	Spicer.	M.	Timk.	6660	F.	RR.	SP.	W.	10.33	Int-RW	Int-RW	Ell.	Timk.	Ross.	S&N.	Wayne.	Wood.	P&B.	**‡‡Sullivan H**
Fuller.	MDD.	Fuller.		SG.	Un.E.	4	Therm.	F.	Sheld.	W21	½F.	SP.	SP.	W.	8.75	Int-RW	Int-RW	½Ell.	Sheld.	Lav.	S&N.	Prud.	Wood.	P&B.	**‡‡Super Truck 50**
Fuller.	MDD.	Fuller.	G.	SG.	SU.	4	Spicer.	M.	Sheld.	W31	½F.	SP.	SP.	W.	10.75	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	CS.	P&B.	**‡‡Super Truck 70**
Fuller.	MDD.	Fuller.	H.	SG.	SU.	4	Spicer.	M.	Sheld.	W51	½F.	RR.	SP.	W.	10.75	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	CS.	P&B.	**‡‡Super Truck 100**
B&B.	MDD.			SG.	Un.E.	3		M.			½F.	SP.	SP.	W.	5.50	Int-RW	Int-RW	½Ell.			W&W.		Wood.		**‡‡Vim 29**
B&B.	MDD.	Own.		SG.	Un.E.			M.			½F.	SP.	SP.	W.	5.50	Int-RW	Int-RW	½Ell.			W&W.		Wood.		**‡‡Vim 30**
Covert	MDD.	Covert	MUC3	SG.	Un.E.	3		M.			½F.	SP.	SP.	W.	6.50	Int-RW	Int-RW	½Ell.			W&W.		Wood.		**‡‡Vim 31**
B-L.	MDD.	B-L.	50	SG.	SU.	4		M.			½F.	SP.	SP.	W.	7.75	Int-RW	Int-RW	½Ell.			W&W.		CS.		**‡‡Vim 23**

CANADIAN

Clutch Make	Clutch Type	Gearset Make	Model	Type	Location	No. For. Spds.	Universals Make	Type	Rear Axle Make	Model	Type of Axle or Jackshaft	Propulsion Taken By	Torque Taken By	Final Drive	Gear Reduct.	Foot Type and Location	Hand Type and Location	Springs Rear Type	Front Axle Make	Steering Make	Steering Type	Wheels Make	Wheels Type	Frame Make	MAKE AND MODEL
B-L.	SP.	B-L.	30	SG.	Un.E.	3	Spicer.	M.	Timk.	6250	½F.	SP.	SP.	W.	5.60	Int-RW	Int-RW	½Ell.	Timk.	Gemm	W&W.	Dayton	CS.	Detr.	**Gotfredson 20**
B-L.	MDD.	B-L.	35	SG.	Un.E.	4	Spicer.	M.	Timk.	6460	½F.	SP.	SP.	W.	7.00	Int-RW	Int-RW	½Ell.	Timk.	Gemm	W&W.	Dayton	CS.	Detr.	**Gotfredson 31**
B-L.	MDD.	B-L.	55	SG.	SU.	4	Spicer.	M.	Timk.	6666	F.	RR.	SP.	W.	8.75	Int-RW	Int-RW	½Ell.	Timk.	Gemm	W&W.	Dayton	CS.	Can.	**Gotfredson 80**
B-L.	MDD.	B-L.	60	SG.	Un.E.	4	Spicer.	M.	Timk.	6760	F.	RR.	SP.	W.	10.33	Int-RW	Int-RW	½Ell.	Timk.	Gemm	W&W.	Dayton	CS.	Can.	**Gotfredson 100**
Fuller.	MDD.	Fuller.	LTU5.	SG.	Un.E.	3	Blood.	M.	Sheld.	W1501	½F.	SP.	SP.	W.	6.50	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	Art.	Own.	**Mapleleaf Exp**
Fuller.	MDD.	Fuller.	GU7.	SG.	Un.E.	4	Blood.	M.	Sheld.	W103	½F.	SP.	SP.	W.	8.66	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	Art.	Own.	**Mapleleaf AA**
Fuller.	MDD.	Fuller.	GU7.	SG.	Un.E.	4	Blood.	M.	Sheld.	W21	½F.	SP.	SP.	W.	8.75	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	CS.	Own.	**Mapleleaf BB**
Fuller.	MDD.	Fuller.	GU7.	SG.	Un.E.	4	Blood.	M.	Sheld.	W31	½F.	SP.	SP.	W.	10.25	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	CS.	Own.	**Mapleleaf CC**
Fuller.	MDD.	Fuller.	H.	SG.	SU.	4	Blood.	M.	Sheld.	W51	½F.	SP.	SP.	W.	13.00	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	CS.	Own.	**Mapleleaf DD**
B-L.	MDD.	B-L.	30	SG.	Un.E.	3	Spicer.	M.	Timk.	6352	½F.	SP.	SP.	W.	6.20	Int-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Domin.	Wood.	Detr.	**National FA**
B-L.	MDD.	B-L.	30	SG.	Un.E.	3	Spicer.	M.	Timk.	6460	½F.	SP.	SP.	W.	7.00	Int-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Domin.	Wood.	Detr.	**National GA**
H-S.	MDO.	B-L.	51	SG.	SU.	4	Spicer.	M.	Timk.	6560	F.	RR.	SP.	W.	7.75	Int-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Smith.	CS.		**National HD**
H-S.	MDO.	B-L.	55	SG.	SU.	4	Spicer.	M.	Timk.	6666	F.	RR.	SP.	W.	8.75	Int-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Smith.	CS.		**National NB**
H-S.	MDO.	B-L.	60	SG.	SU.	4	Spicer.	M.	Timk.	6760	F.	RR.	SP.	W.	10.25	Int-RW	Int-RW	½Ell.	Timk.	Ross.	S&N.	Smith.	CS.		**National OA**
B&B.	SP.	Cotta.	AAU.	CM.	Un.E.	3	Spicer.	M.	Sheld.	W1501	½F.	SP.	SP.	W.	6.50	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	CS.	Own.	**‡‡Veteran E**
B&B.	SP.	Cotta.		CM.	Un.E.	4	Spicer.	M.	Sheld.		½F.	SP.	SP.	W.	6.50	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	CS.	Own.	**‡‡Veteran A**
B&B.	SP.	Cotta.	RU.	CM.	Un.E.	4	Spicer.	M.	Sheld.	W21	½F.	SP.	SP.	W.	7.75	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	CS.	Own.	**‡‡Veteran D**
B&B.	SP.	Cotta.	SU.	CM.	Un.E.	4	Spicer.	M.	Sheld.	W31	½F.	SP.	SP.	W.	8.75	Int-RW	Int-RW	½Ell.	Sheld.	Ross.	S&N.	Smith.	CS.	Own.	**‡‡Veteran H**

Un. E.—Unit with Engine
S. U.—Separate Unit
Un. J.—Unit with jackshaft
M. & F.—Metal & Fabric
M—Metal
F—Fabric
East—Easton
Univ—Universal
Ther—Thermoid-Hardy
Mech—Mechanics

AXLES:
Dunk—Dunkirk
Colum—Columbia
Iron M.—Iron Mountain
Salis—Salisbury
Shul—Shuler

Sheld—Sheldon
Thom—Thomson
Timk—Timken
Vul—Vulcan
Wisc—Wisconsin
Torb—Torbenson
Sp—Springs
R. & T.—Radius Rods and Torque Arm
R. R.—Radius Rods
T. T.—Torque Tube
T. A.—Torque Arm
W—Worm
D. R.—Double Reduction
I. G.—Internal Gear
S. B.—Straight Bevel
S. P.—Spiral Bevel

Ch—Chain
½ F.—½ Floating
¾ F.—½ Floating
F—Full Floating

RUNNING GEAR:
Int. R. W.—Internal Rear Wheels
Ex. R. W.—External Rear Wheels
Ext. J. S.—External Jackshaft
Int. D. S.—Internal Driveshaft
T. ½ E.—Transverse ½ Elliptic
½ Ell.—½ Elliptic

¾ Ell.—¾ Elliptic
Plat—Platform
Lav—Lavine
Gemm—Gemmer
S. & N.—Screw & Nut
W. & W.—Worm & Wheel
W. & N.—Worm & Nut
B. P. & S.—Bevel, Pinion & Sector
A.-W.—Auto-Wheel
Can—Canadian Bridge Co.
Imp—Imperial
St. M.—St. Marys
Indest—Indestructible
Schwa—Schwartz
Hoopes—Hoopes Bros. & Darlington

Arch—Archibald
Prud—Prudden
Detr—Detroit
Stand—Standard
Med—Medway
Inters—Interstate
North—Northwestern
Domin—Dominion
Fires—Firestone
E. & O.—Eberly & Oris
Art—Artillery
C.S.—Cast Steel
P. S.—Pressed Steel
Detr—Detroit
Hyd—Hydraulic
Rals—Ralston
P. & B.—Parish & Bingham

Electric Truck Specifications on pages 434-435.

American Gasoline

MAKE AND MODEL	RATING				FRONT AXLE ASSEMBLY				REAR AXLE ASSEMBLY						FRAME				ENGINE		FUEL SYSTEM	
	In Tons	Passenger Capacity	Wheelbase (Ins.)	Chassis Weight (Lbs.)	Make	Tread (Ins.)	Road Clearance (Ins.)	Tires: Type and Size (Ins.)	Tires: Type and Size (Ins.)	Road Clearance (Ins.)	Tread (Ins.)	Make	Final Drive	Total Gear Reduction	Height to Top of Frame at Dash (Ins.)	Type of Frame at Rear Axle	Outriggers Attached to Frame?	Make	Make	No. of Cylinders Bore and Stroke	Carbureter Make	Fuel Feed
Ace.....30	1½	30	144	4600	Timk...	68	8	P-36x6	P-36x6d	6⅞	74	Timk...	W....	5.40	23	Kickup..	Yes...	Own....	Midw...	4-3⅝x5	Zenith...	Vac..
Ace.....C	...	30	204	6000	Timk...	68	8	P-36x6	P-36x6d	6⅞	74	Timk...	W....	5.40	23	Kickup..	Yes...	Own....	Midw...	4-4½x6	Zenith...	Vac..
Acme.....20	1	....	129	3050	Timk...	56	11	P-35x5	P-35x5	11	56	Timk...	W....	6.75	30	Straight.	No...	Smith...	Cont....	4-3¾x5	Ray....	Vac..
Acme.....30	1½	....	129	3400	Timk...	56	11	P-34x5	P-36x6	10½	56	Timk...	W....	7.20	30	Straight.	No...	Smith...	Cont....	4-3¾x5	Ray....	Vac..
Acme.....40	2	....	141	3980	Timk...	58	11¾	P-35x5	P-38x7	10	58	Timk...	W....	8.75	31	Straight.	No...	Smith...	Cont....	4-3¾x5	Zenith...	Vac..
Acme.....60	3	....	152	4830	Timk...	58½	12	S-36x4	S-36x7	10	58½	Timk...	W....	9.25	32	Straight.	No...	Smith...	Cont....	4-4¼x5¼	Ray....	Vac..
Acme.....60-L	3	....	156	5050	Timk...	58½	12	P-36x6	P-40x8	10	58½	Timk...	W....	6.00	32	Straight.	No...	Smith...	Cont....	4-4½x5½	Ray....	Vac..
Autocar.....21UG	1½	18	120	3700	Own....	59¼	14	S-34x4	S-34x6	10½	59¼	Own....	D.R..	8.30	31¾	Straight.	No...	Parish...	Own....	2-4¾x4½	Strom...	Grav.
Autocar.....27K	2	25	138	5350	Own....	60	12	S-34x5	S-36x7	11½	60	Own....	D.R..	7.72	30	Straight.	No...	Parish...	Own....	4-4 x5½	Strom...	Grav.
Autocar.....26B	4	32	156	7400	Own....	63	13½	S-34x6	S-36x12	10	65	Own....	D.R..	8.72	34	Straight.	No...	Parish...	Own....	4-4¼x5½	Strom...	Grav.
Beck.....A30	1¼	15	132	2800	Shul....	56	11	P-34x4½	P-34x4½	12	56	Iron-M.	W....	6.50	30	Straight.	Yes...	P. & B...	H.S....	4-3½x5	Strom...	Grav.
Bessemer.....G	1	16	124	3000	Shul....	56	11½	P-35x5	P-35x5	12¼	56	Torb....	I.G....	6.28	30⅛	Straight.	No...	Parish...	Cont....	4-3½x5	Strom...	Grav.
Brockway.....E2	1	....	135	3250	Colum..	56	10½	P-33x5	P-33x5	10	56	Colum..	S.B....	5.12	27	Straight.	.....	Own....	Wisc....	4-4 x5	Zenith...	Vac..
Buick.....23-4-SD	¾	....	109	....	Own....	56	11	P-31x4	P-31x4	10	56	Own....	S.B....	4.66	.....	Straight.	No...	Own....	Own....	4-3⅜x4¾	Marvel..	Vac..
Chevrolet.....T	1	....	125	2840	Own....	.....	.....	P-33x4	P-35x5	.....	.....	Own....	W....	7.00	.....	Straight.	No...	Own....	Own....	4-3 11/16x5¼	Zenith...	Grav.
Commerce.....	....	....	198	....	Timk...	.....	.....	P-36x6	P-36x6d	.....	.....	Timk...	.....	.....	.....	.....	.....	.....	Cont....	6-3⅝x5¼	.....	.....
Day Elder.....C	2½	25	150	4600	Sheld...	56	10½	S-36x4	S-36x7	11	60	Timk...	W....	8.75	29	Straight.	No...	Savage..	Buda...	4-4½x5½	Zenith...	Grav.
Day Elder.....D	2½	20	144	3950	Colum..	56	10½	S-36x4	S-36x7	11¼	58	Timk...	W....	8.66	29	Straight.	No...	Savage..	Buda...	4-4½x5¼	Zenith ..	Grav.
Defiance.....G	1	19	128	....	Colum..	56	.....	P-32x6	P-34x7	.....	56	Eaton...	S.B....	6.14	.....	Straight.	Yes...	Detr....	Cont....	4-3¾x5	Strom...	Vac..
Dependable.....CD	1½	....	151	4350	Shul....	56	9	S-34x4	C-34x6	11	57	Wisc....	W....	8.00	30	Straight.	No...	P. & B...	Buda...	4-3¾x5¼	Zenith...	Vac..
Dependable.....EG	2½	....	167	5900	Shul....	56	10	C-36x4	C-36x8	11	59	Wisc....	W....	9.25	32	Straight.	No...	P. & B...	Buda...	4-4¼x5½	Zenith...	Vac..
Duplex.....A	2	16	145	3900	Sheld...	56	12¼	P-35x5	P-38x7	11¾	62	Sheld...	W....	6.50	31½	Straight.	Yes...	P. & B...	Hink....	4-4 x5¼	Strom...	Grav.
Duplex.....AB	....	23	160	4400	Sheld...	56	12¼	P-35x5	P-38x7	11¾	62	Sheld...	W....	6.50	31½	Straight.	Yes...	P. & B...	Hink....	4-4 x5¼	Strom...	Vac..
Eagle.....100	2	....	139	4100	Colum..	56	.....	S*-34x4	S*-34x7	.....	60	Russ....	I.G....	8.80	.....	Straight.	No...	Own....	Buda...	4-3¾x5¼	Zenith...	Grav.
Eugol.....752	1	....	135	3500	Timk...	.....	.....	P-34x5	P-34x5	.....	.....	Timk...	W....	.....	.....	Straight.	No...	P. & B...	Buda...	4-3¾x5⅛	Strom...	Vac..
Fageol.....	....	27	218	9600	Timk...	70	7½	P-36x6	P-36x6	7½	70	Timk...	W....	6.10	19¾	Kickup..	Yes...	Own....	Hall-S..	4-4¼x5½	Zenith...	Vac..
Fageol.....	....	12	218	7800	Timk...	70	7½	P-36x6	P-36x6	7½	70	Timk...	W....	5.20	19¼	Kickup..	Yes...	Own....	Hall-S..	4-4¼x5½	Zenith...	Vac..
Fifth Avenue Coach.."A"	....	29	172	4895	Timk...	68 3/16	7⅝	S*-36x6	S*-36x6	6¾	73¾	Timk...	W....	Opt...	26	Kickup..	.....	Parish...	R&VK..	4-4 x6	Zenith...	Vac..
Fifth Avenue Coach.."J"	....	51	156	6066	Own....	66 7/16	7½	S-36x4	S-36x5	10	72	Own....	W....	6.80	30¼	Straight.	.....	Own....	R&VK..	4-4 x6	Zenith...	Grav.
Fifth Avenue Coach.."L"	....	51	173½	3350	Own....	67	7¾	S-36x5	S-36x5	5⅞	73⅛	Own....	L.G....	6.50	25⅝	Kickup..	.....	Parish...	R&VK..	4-4 x6	Zenith...	Grav.
Ford.....TT	1	....	123	1440	Own....	56	11½	P-30x3½	P-32x4½	9 3/16	56	Own....	W....	Opt...	25	Straight.	No...	P. & B...	Own....	4-3¾x4	Holley..	Grav.
Garford.....51	....	29	192	....	Timk...	68	.....	S-36x	S-36x8	5½	74	Timk...	W....	.....	25½	Kickup..	Yes...	.....	Buda...	4-4¼x5½	.....	.....
Gary.....FB	....	18	154	3680	Timk...	56	.....	P-35x5	P-36x6	.....	56	Timk...	W....	6.20	.....	Straight.	No...	P. & B..	Buda...	4-4 x5¼	Zenith...	Vac..
Gary.....BIL	....	25	175	4450	Timk...	58	.....	P-35x5	P-38x7	.....	58	Timk...	W....	6.00	.....	Straight.	No...	P. & B..	Buda...	4-4¼x5½	Zenith...	Vac..
G. M. C.....K-20	....	20	178	4030	Own....	55¾	11⅝	P-36x6	P-36x6	9¾	55¾	Own....	S.B....	6.00	30	Straight.	No...	Smith...	Own....	4-4 x5½	Marvel..	Vac..
G. W. W.....	1½	....	142	3200	Shul....	56	.....	P-35x5	P-35x5	12	56	Clark...	I.G....	7.00	31	Straight.	No...	Own....	Weid...	4-3¾x5½	Scheb...	Grav.
Guilder.....	....	30	196	6500	Shul....	64	8	C-36x5	C-36x8	9	71	Clark...	I.G....	7.00	25½	Kickup..	Yes...	.....	Buda...	4-4¼x5½	Zenith...	Vac..
Harvey.....WOA	2	25	160	5400	Sheld...	56	10	S-34x4	S-34x7	9⅝	59½	Sheld...	W....	7.75	33	Straight.	No...	Own....	Buda...	4-4¼x5½	Strom...	Grav.
Harvey.....WFB	2½	35	160	5900	Sheld...	56	11½	S-36x4	S 36x7	9¾	58	Sheld...	W....	7.75	34	Straight.	No...	Own....	Buda...	4-4¼x5½	Strom...	Grav.
Harvey.....WHB	3½	45	160	7600	Sheld...	64	10½	S-36x5	S-36x5	9	69¾	Sheld...	W....	8.75	.....	Straight.	No...	Own....	Buda...	4-4½x6	Strom...	Grav.
International.....61	3	....	164	4800	Own....	61	.....	S*-36x4	S*-36x7d	.....	61½	Own....	I.G....	4.85	.....	Straight.	.....	Own....	Own....	4-4¼x5	Ensign..	Grav.
Jumbo.....	....	27	200	5300	.....	74	7	S-36x	S-36x	10	74	Clark...	I.G....	.....	26	Kickup..	No...	.....	Buda...	4-4½x5½	.....	.....
K-Z.....	¾	....	125	....	Timk...	56	.....	P-33x5	P-33x5	.....	56	Timk...	S.B....	4.90	.....	Straight.	No...	Own....	Cont....	4-3¾x5	Strom...	Grav.
Kelly-Springfield..K-34D	1	....	144	4670	Own....	57	.....	S-36x3½	S-36x6	.....	60	Own....	W....	8.50	.....	Straight.	No...	Smith...	Own....	4-3¾x5¼	Zenith...	Grav.
Kelly-Springfield...K-38	2½	....	150	5200	Own....	60	.....	S-36x4	S-36x4d	.....	62¼	Own....	W....	11.66	.....	Straight.	No...	Smith...	Own....	4-3¾x5¼	Zenith...	Grav.
Kelly-Springfield...K-35	2½	....	144	5000	Own....	60	.....	S-36x4	S-36x4d	.....	65	Own....	Ch....	12.00	.....	Straight.	No...	Smith...	Own....	4-3¾x5¼	Zenith...	Grav.
Kelly-Springfield...K-42	3½	....	156	8500	Own....	70	.....	S-36x5	S-40x5d	.....	68½	Eaton...	W....	10.25	.....	Straight.	No...	Rals....	Own....	4-4½x6½	Zenith...	Grav.
Kelly-Springfield...K-40	3½	....	150	7730	Own....	70	.....	S-36x5	S-40x5d	.....	73¾	Own....	Cn....	10.48	.....	Straight.	No...	Smith...	Own....	4-4½x6½	Zenith...	Grav.
Kelly-Springfield...K-41	3½	....	156	7900	Own....	70	.....	S-36x5	S-36x10	.....	65	Clark...	I.G....	10.00	.....	Straight.	No...	Rals....	Own....	4-4½x6½	Zenith...	Grav.
Kelly-Springfield...K-50	5	....	158	8400	Own....	70	.....	S-36x6	S-40x6d	.....	75¾	Own....	Ch....	12.24	.....	Straight.	No...	Smith...	Own....	4-4½x6½	Zenith...	Grav.
Kelly-Springfield...K-61	5	....	156	9025	Own....	70	.....	S-36x6	S-36x7d	.....	67	Clark...	I.G....	11.66	.....	Straight.	No...	Rals....	Own....	4-4½x6½	Zenith...	Grav.
Keystone.....	2	....	144	4000	Torb....	56	.....	P-34x5	S-38x7	.....	60	Russ....	I.G....	8.80	.....	.....	.....	Own....	Buda...	4-3¾x5½	Zenith...	Grav.
Kissel.....	....	18	202	5120	.....	64	.....	P-32x6	P-32x6	.....	66	.....	D.R..	6.33	22½	Kickup..	Ye...	Own....	Own....	6-3 1/16x5½	.....	.....
Larrabee.....X-2	1	16	138	3350	Salis....	56	12¾	P-34x5	P-34x5	11	56	Salis....	S.B....	5.75	28	Straight.	No...	Savage..	Cont....	6-3⅜x4½	Zenith...	Grav.
Larrabee.....J-4	1½	20	132	4500	Sheld...	56	10½	S-34x3½	S-34x5	9¾	57	Sheld...	W....	7.75	28½	Straight.	No...	Savage..	Cont....	4-3¾x5	Zenith...	Grav.
Maccar.....H-2	3	....	162	5700	Timk...	58½	11¼	P-32x6	P-36x8	11¼	58½	Timk...	W....	6.80	29	Straight.	No...	Parish...	Cont....	4-4½x5½	Strom...	Vac..
Mack.....AB	2½	25	192	6200	Own....	58½	12	C-34x5	C-34x5d	9¾	62	Own....	DR....	6.67	31 11/16	Straight.	Yes...	Own....	Own....	4-4¼x5	Zenith...	Vac..
Mack.....AC	3½	....	156	7970	Own....	68½	.....	S-36x5	S-40x5d	.....	71½	Own....	Ch....	7.54	.....	Straight.	.....	Own....	Own....	4-5 x6	Zenith...	Grav.
Master.....JBB	....	21	170	5400	Shul....	59	8	S*-34x4	S*-36x6d	10	59	Walker..	Ch....	.....	24	Kickup..	Yes...	P. & B...	Buda...	4-4x5¼	Zenith...	Vac..
Master.....DBB	....	29	194	5600	.....	59	8	S*-34x4	S*-36x6d	10	59	.....	.....	.....	26	Kickup..	Yes...	.....	Buda...	4-4¼x5½	.....	.....
Moreland.....RR	1	18	132	3350	Timk...	56	6¾	P-32x6	P-32x6	9	52	Timk...	W....	4.58	19	Kickup..	Yes...	Smith...	Herc....	4-4 x5	Zenith...	Grav.
Oldsmobile.....T	1	15	128	2320	Torb....	56	10½	P-35x5	P-35x5	12	56	Torb....	I.G....	6.50	38	Straight.	No...	Own....	Own....	4-3 11/16x5¼	Zenith...	Vac..
Oneida.....B	1½	25	144	4910	Shul....	55¾	.....	S-36x3½	S-36x7	.....	57½	Wisc....	W....	.....	34½	Kickup..	Yes...	Own....	Hink....	4-4 x5¼	Strom...	Vac..
Oneida.....C	2½	30	160	5700	Shul....	58	.....	S-36x4	S-36x7	.....	60	Wisc....	W....	.....	36⅞	Kickup..	Yes...	Detr....	Hink....	4-4x5¼	Strom...	Vac..
Oneida.....D	3½	42	170	7700	Cont....	67	.....	S-36x5	S-36x10	.....	67	Timk...	W....	.....	35⅛	Kickup..	Yes...	Detr....	Hink....	4-4½x5½	Strom...	Vac..
Overland.....4-D	½	....	100	1456	Own....	56	9⅜	P-30x3½	P-30x3½	9½	56	Own....	S.B....	4.50	25½	Straight.	No...	Own....	Own....	4-3⅜x4	Tillot...	Grav.
Packard.....E	2	25	168	5250	Own....	58½	10	S-36x4	S-36x7d	9¾	55½	Own....	W....	7.25	29¾	Straight.	Yes...	Own....	Own....	4-4 7/16x5½	Own....	Pres..
Packard.....EX	2½	25	168	5350	Own....	58½	13	P-36x6	P-40x8	12	56½	Own....	W....	8.00	33½	Straight.	Yes...	Own....	Own....	4-4 7/16x5½	Own....	Pres..
Patriot.....Revere	1	18	128	2800	Flint....	56	13½	P-35x5	P-35x5	11¾	56	Dunk....	W....	6.20	30	Straight.	No...	Detr....	Cont....	4-3¾x5..	Strom...	Vac..
Patriot.....Lincoln Sp.	2	27	140	4200	Shul....	56	11	S*-34x4	S*-34x6	11¼	58	Timk...	W....	7.75	35	Straight.	No...	Detr....	Hink....	4-4 x5¼	Strom...	Vac..
Ranger.....TK	1½	....	136	3700	Timk...	.....	14	S*-36x6	S*-38x7	12	.....	Timk...	W....	9.25	.....	Straight.	Yes...	Hydr...	Wisc....	4-3¾x5	Zenith...	Grav.
Reo.....F	1¼	12	128	2615	Own....	56	12½	P-34x4½	P-34x4½	10	56	Own....	S.B....	4.70	26	Straight.	Yes...	Own....	Own....	4-4½x4½	John....	Grav.
Republic.....	....	25	176	5750	Own....	66½	.....	C-34x4	C-34x4d	.....	66	Clark...	I.G....	8.15	.....	Straight.	Yes...	Detr....	Own....	4-4⅛x4½	Strom...	Vac..

ABBREVIATIONS:
TIRE SIZE:
S—Solid
P—Pneumatic
C—Cushion
d—Dual
*—Pneumatics optional at extra cost
AXLES:
Timk—Timken
Shul—Shuler
Colum—Columbia
Sheld—Sheldon
Torb—Torbenson
Salis—Salisbury
Wisc—Wisconsin
FINAL DRIVE:
W—Worm
I. G.—Internal Gear
D. R.—Double Reduction
S. B.—Straight Bevel
S. P.—Spiral Bevel
Ch—Chain
FRAME:
Detr—Detroit
P. & B.—Parish & Bingham
Rals—Ralston
Hydr—Hydraulic
ENGINE:
Midw—Midwest
Cont—Continental
H-S—Herschell-Spillman
Wisc—Wisconsin
Hink—Hinkley
Hall-S—Hall-Scott
R &V K.—R & V Knight
Weid—Weidely
Wauk—Waukesha
Herc—Hercules
Ray—Rayfield
Strom—Stromberg
Scheb—Schebler
Tillot—Tillotson
John—Johnson
Vac—Vacuum
Pres—Pressure
Grav—Gravity
Mon—Monarch
McC—McCanna
Dup—Duplex
ELECTRICAL SYSTEM
A-K—Atwater-Kent
Eisem—Eisemann
West—Westinghouse
Split—Splitdorf

Motor Bus Specifications

Governor, Make	MAXIMUM GOVERNED SPEED: In. R.P.M. of Engine	MAXIMUM GOVERNED SPEED: In. M.P.H. of Bus	ELECTRICAL SYSTEM: IGNITION SYSTEM: Make	ELECTRICAL SYSTEM: IGNITION SYSTEM: Current Sources	ELECTRICAL SYSTEM: Generator, Make	ELECTRICAL SYSTEM: Starter, Make	ELECTRICAL SYSTEM: Voltage	CLUTCH: Make	CLUTCH: Type	GEARSET: Make	GEARSET: Location	GEARSET: No. of Forward Speeds	UNIVERSAL: Make	UNIVERSAL: Type	SPRINGS: Length Front	SPRINGS: Length Rear	BRAKES: Foot, Type and Location	BRAKES: Hand, Type and Location	Steering Gear Make	WHEELS: Make	WHEELS: Type	MAKE
Pierce.	1800	20	A-K	Bat	West*	West*	6-8	B-L	MDD	B-L	.....	4	Univ	Met	40	60	Int-Rw.	Int-Rw.	Ross	St.M	Art	Ace
Victor.	1500	30	Eisem	Mag.	Remy	Remy	6-8	B-L	MDD	B-L	Un.E.	.....	Univ	Met	40	60	Ext-DS.	Int-Rw.	Ross	Dayton.	Art	Ace
Dup.	1900	28	Eisem	Mag.	Bosch*	Bosch*	6-8	B&B.	SP	Cotta.	Un.E.	3	Blood	Met	38	52	Int-Rw.	Int-Rw.	Ross	Bimel	Art	Acme
Dup.	1700	23	Eisem	Mag.	Bosch*	Bosch*	6-8	B&B.	SP	Cotta.	Un.E.	3	Blood	Met	38	52	Int-Rw.	Int-Rw.	Ross	Bimel	Art	Acme
Dup.	1600	18	Eisem	Mag.	Delco*	Delco*	6-8	B&B.	SP	Cotta.	Un.E.	3	Blood	Met	38	52	Int-Rw.	Int-Rw.	Ross	Bimel	Art	Acme
Dup.	1500	17	Eisem	Mag.	Delco*	Delco*	6-8	B&B.	SP	Cotta.	Un.E.	4	Blood	Met	40	52	Int-Rw.	Int-Rw.	Ross	Bimel	Art	Acme
Dup.	1600	28	Eisem	Mag.	Delco*	Delco*	6-8	B&B.	SP	Cotta.	Un.E.	4	Blood	Met	40	52	Int-Rw.	Int-Rw.	Ross	Bimel	Art	Acme
.....	.....	.....	Bosch	Mag.	....*	....*	.....	Own.	SP	Own.	S.U.	3	Spicer	Met	40	45	Ext-Rw.	Int-Rw.	Ross	Hoopes.	Art	Autocar
Pharo.	1450	20	Bosch	Mag.	L-N*	L-N*	6-8	Own.	SP	Own.	S.U.	4	Spicer	Met	41	52½	Int-Rw.	Int-Rw.	Ross	Hoopes.	Art	Autocar
Pharo.	1450	18	Bosch	Mag.	L-N*	L-N*	6-8	Own.	SP	Own.	S.U.	4	Spicer	Met	41	52½	Int-Rw.	Int-Rw.	Ross	Hoopes.	Art	Autocar
.....	.....	.....	Bosch	Bat.	Bosch	Bosch	6-8	Fuller.	MDD	Fuller.	Un.E.	3	Therm.	Fab.	34	52	Int-Rw.	Ext-Rw.	Lav	St.M	Art	Beck
.....	.....	.....	Bosch	Mag.	Bijur	Bijur	6-8	Fuller.	MDD	Fuller.	Un.E.	3	Arvac	Met	39	52	Ext-Rw.	Int-Rw.	Ross	Schwa	Art	Bessemer
.....	.....	.....	Remy	Mag.	L-N	L-N	6-8	B-L	MDD	B.L.	Un.E.	3	M&E.	Met	38	48	Ext-Rw.	Int-Rw.	Gemm	Bimel	Art	Brockway
.....	.....	.....	Delco	Bat.	Delco	Delco	6-8	Own.	MDD	Own.	Un.E.	3	Own	Met	36	55½	Int-Rw.	Ext-Rw.	Jacox	Own	Art	Buick
Mon.	.....	25	Remy	Bat.	A-L	A-L	6-8	Own.	Cone	Mun.	Un.E.	3	Own	.....	37½	53	Int-Rw.	Int-Rw.	Own	Hayes	Art	Chevrolet
.....	.....	.....	.....	.....	.....	.....	.....	B-L	MDD	B-L	S. U.	4	.....	.....	.....	60	.....	.....	.....	Mich	.....	Commerce
Mon.	1200	15	Eisem	Mag.	Bosch	West	6-8	Covert	MDD	Covert	Un.E.	4	Hart	Met	42	56	Int-Rw.	Int-Rw.	Gemm	Jones	Art	Day Elder
.....	1300	16	Eisem	Mag.	Bosch	West	6-8	Covert	MDD	Covert	Un.E.	4	Hart	Met	40	54	Int-Rw.	Int-Rw.	Gemm	Jones	Art	Day Elder
.....	1800	30	Eisem*	Mag.	A-L*	A-L*	.....	B&B.	SP	G-L	Un.E.	3	Spicer	Met	42	54	..-Rw.	..-Rw.	.....	St.M	Art	DeFiance
Mon.	.....	18	Split	Mag.	A-L*	A-L*	6-8	Fuller.	MDD	Fuller.	Un.E.	3	Arvac	Met	40	50	Int-Rw.	Int-Rw.	Ross	Bimel	Art	Dependable
Mon.	.....	14	Split	Mag.	A-L*	A-L*	6-8	Fuller	MDD	Fuller.	S.U.	4	Arvac	Met	42	52	Int-Rw.	Int-Rw.	Ross	Bimel	Art	Dependable
.....	.....	.....	West	Bat.	West	West	6-8	Covert	MDD	Covert	Un.E.	3	Peters	Met	38⅜	48	Int-Rw.	Int-Rw.	Ross	Motor	Art	Duplex
.....	.....	.....	West	Bat.	West	West	6-8	B-L	MDD	B-L	Un.E.	4	Peters	Met	38⅜	48	Int-Rw.	Int-Rw.	Ross	Motor	Art	Duplex
Opt.	.....	.....	Eisem	Mag.	Bosch*	Bosch	6-8	Covert	MDD	Covert	Un.E.	3	M&E	Met	.....	59	Ext-Rw.	.....	Lav	Stand	Art	Eagle
.....	.....	.....	West	Bat.	West	West	6-8	Warn.	MDD	Warn.	.....	3	Peters	Met	38	48	.....	.....	Ross	Bimel	Art	Eugol
Hall-S.	1800	.....	Delco	Bat.	Delco	Delco	6-8	B-L	MDD	B-L	Un.E.	4	Blood	M&F.	41	56	Int-Rw.	Int-Rw.	Ross	Budd	CS	Fageol
Hall-S.	1800	.....	Delco	Bat.	Delco	Delco	6-8	B-L	MDD	B-L	Un.E.	4	Blood	M&E	41	56	Int-Rw.	Int-Rw.	Ross	Budd	PS	Fageol
.....	.....	.....	Eisem	Mag.	N-E*	N-E*	12-16	Own.	SP	B-L	S.U.	4	Snead	Fab	48	62¾	Int-Rw.	Int-Rw.	Ross	Budd	CS	Fifth Avenue Coach
.....	.....	.....	Bosch	Mag.	N-E*	N-E*	6-8	Own.	SP	B-L	S.U.	4	Spicer	Met	48	60	Int-Rw.	Int-Rw.	Gemm	John	CS	Fifth Avenue Coach
.....	.....	.....	Bosch	Mag.	N-E*	N-E*	12-16	Own.	SP	B-L	S.U.	4	Snead	Fab	48	56	Ext-DS.	Ext-Rw.	Ross	Clark	CS	Fifth Avenue Coach
.....	.....	.....	Own	Mag.	Own*	Own*	6-8	Own.	MDD	Own.	Un.E.	2	Own	Met	31½	16½	Ext-DS.	Int-Rw.	Own	Own	Art	Ford
.....	.....	.....	.....	.....	.....	.....	6-8	.....	MDD	.....	S.U	4	.....	.....	42	60	Ext-DS.	Ext-Rw.	Ross	.....	.....	Garford
McC.	1500	26	Eisem	Mag.	Vesta	West	6-8	Fuller.	MDD	Fuller.	Un.E.	3	Opt	.....	40½	50	Int-Rw.	Int-Rw.	Russ	.....	Art	Gary
McC.	1300	25	Eisem	Mag.	Vesta	West	6-8	Fuller.	MDD	Fuller.	Un.E.	3	Opt	.....	44	52	Int-Rw.	Int-Rw.	Russ	.....	Art	Gary
Own.	1680	30	Eisem	Mag.	Remy	Remy	6-8	Own.	MDD	Own.	Un.E.	3	Own	Met	42	54	Ext-Rw.	Int-Rw.	Jacox	Indes	PS	G. M. C.
.....	.....	.....	.....	Bat.	....*	....*	6-8	Fuller	MDD	Fuller.	Un.E.	3	Acme	Met	40	48	Ext-Rw.	Int-Rw.	Wohl	Rover	Art	G. W. W.
.....	.....	.....	Eisem	Mag.	L-N	L-N	12-16	Fuller.	MDO	Fuller.	S.U.	4	Spicer	Met	48	60	Ext-DS.	Ext-Rw.	Ross	Smith	CS	Guilder
McC.	1285	18	Split	Mag.	West*	West*	6-8	Fuller.	MDD	Fuller.	Un.E.	3	Spicer	Met	44	56	Int-Rw.	Int-Rw.	Ross	St.M	Opt	Harvey
McC.	1285	18	Split	Mag.	West*	West*	6-8	Fuller.	MDD	B-L	S.U.	4	Spicer	Met	44	56	Int-Rw.	Int-Rw.	Ross	St.M	Opt	Harvey
McC.	1000	12	Split	Mag.	West*	West	6-8	Fuller.	MDD	B-L	S.U.	4	Spicer	Met	50	60	Int-Rw.	Int-Rw.	Ross	St.M	Opt	Harvey
Own.	1275	15	Split	Mag.	....*	....*	.....	Own.	MDD	Own.	S.U.	4	Own	.....	41¼	36¾	Int-Rw.	Int-Rw.	Own	Own	Art	International
.....	.....	.....	.....	.....	.....	.....	.....	.....	MDD	.....	Un.E.	.....	.....	.....	36	58	Ext-Rw.	.....	.....	.....	.....	Jumbo
.....	.....	.....	Bosch	Bat.	Bosch	Bosch	6-8	B-L	MDD	B-L	Un.E.	3	Snead	Fab	38	50	Int-Rw.	Int-Rw.	Gemm	Bimel	Art	K-Z
Pierce.	1300	16	Eisem	Mag.	Delco	Delco	6-8	B&B.	SP	Covert	S.U.	3	Peters	Met	42	50	Int-Rw.	Int-Rw.	Gemm	St.M	Art	Kelly-Springfield
Pierce.	1300	12	Eisem	Mag.	Delco*	Delco*	6-8	B&B.	SP	Covert	S.U.	4	Peters	Met	42	50	Int-Rw.	Int-Rw.	Gemm	St.M	Art	Kelly-Springfield
Pierce.	1300	12	Eisem	Mag.	Delco*	Delco*	6-8	Own.	Cone	Covert	Un.J.	.....	Own	Met	42	44	Int-Rw.	Int-Rw.	Gemm	St.M	Art	Kelly-Springfield
Pierce.	1300	14	Eisem	Mag.	Delco*	Delco*	6-8	B&B.	SP	Covert	S.U.	4	Peters	Met	48	56	Int-Rw.	Int-Rw.	Gemm	Smith	CS	Kelly-Springfield
Pierce.	1300	13	Eisem	Mag.	Delco*	Delco*	6-8	B&B.	SP	Covert	Un.J.	3	Own	Fab	48	56	Int-Rw.	Int-Rw.	Gemm	St.M	Art	Kelly-Springfield
Pierce.	1300	14	Eisem	Mag.	Delco*	Delco*	6-8	B&B.	SP	Covert	S.U.	4	Peters	Met	48	56	Ext-DS.	Int-Rw.	Gemm	Clark	CS	Kelly-Springfield
Pierce.	1300	12	Eisem	Mag.	Delco*	Delco*	6-8	B&B.	SP	Covert	S.U.	4	Own	Fab	48	56	Int-Rw.	Int-Rw.	Gemm	Smith	CS	Kelly-Springfield
Pierce.	1300	12	Eisem	Mag.	Delco*	Delco	6-8	B&B.	SP	Covert	S.U.	4	Peters	Met	48	56	Ext-DS.	Int-Rw.	Gemm	Clark	CS	Kelly-Springfield
Pierce.	1150	17	Berl	Mag.	Bosch*	Bosch*	6-8	Fuller.	MDD	Fuller.	Un.E.	3	Spicer	Met	.....	52	Ext-Rw.	Int-Rw.	Ross	Hoopes.	Art	Keystone
.....	.....	35	.....	.....	.....	.....	6-8	.....	MDD	.....	Un.E.	3	.....	.....	38	60	Ext-Rw.	Int-Rw.	Ross	.....	.....	Kissel
Pharo.	1400	20	Bosch	Bat.	Bosch	Bosch	6-8	B-L	MDD	B-L	Un.E.	3	Snead	Fab	38	54	Ext-Rw.	Int-Rw.	Gemm	Indes	PS	Larrabee
.....	.....	.....	Bosch	Mag.	Bosch*	Bosch*	6-8	B-L	MDD	B-L	Un.E.	3	Snead	Fab	38	54	Ext-Rw.	Ext-Rw.	Gemm	Smith	CS	Larrabee
Pierce.	1270	16	Eisem	Mag.	Bosch*	Bosch*	6-8	B-L	MDD	B-L	Un.E.	4	Spicer	Met	44	56	Int-Rw.	Int-Rw.	Ross	Dayton.	CS	Maccar
.....	1475	22	Split	Mag.	L-N	L-N	12-16	Own.	MDD	Own.	Un.E.	4	Spicer	Met	39½	60¼	Int-Rw.	Ext-DS.	Own	Schwa.	Opt	Mack
Own.	1175	18	Split	Mag.	L-N*	L-N*	12-16	Own.	SP	Own.	Un.E.	4	Spicer	Met	46	52	Ext-JS.	Int-Rw.	.....	Schwa.	Art	Mack
.....	.....	.....	West	Bat.	West	.....	12-16	Fuller.	MDD	Fuller.	Un.E.	3	Spicer	Met	.....	.....	Int-Rw.	Ext-DS.	Ross	Clark	CS	Master
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Master
.....	.....	.....	A-L	Bat.	A-L	A-L	6-8	B-L	MDD	B-L	Un.E.	3	Peters	Met	34¼	58	Ext-Rw.	Int-Rw.	Ross	Smith	CS	Moreland
.....	.....	.....	Remy	Bat.	A-L	A-L	6-8	B&B.	SP	Warn.	Un.E.	3	Spicer	Met	37	50	Ext-Rw.	Int-Rw.	Jacox	A-W	Art	Oldsmobile
Hink.	.....	22	West	Mag.	West	West*	6-8	Fuller.	MDD	Fuller.	S.U.	3	Peters	Met	39½	56	Int-Rw.	Int-Rw.	Ross	Stand	Art	Oneida
Hink.	.....	.....	West	Mag.	West	West*	6-8	Fuller.	MDD	Fuller.	S.U.	4	Peters	Met	39½	56	Int-Rw.	Int-Rw.	Ross	Stand	Art	Oneida
Hink.	.....	.....	West	Mag.	West	West*	6-8	Fuller.	MDD	Fuller.	S.U.	4	Peters	Met	44	56	Int-Rw.	Int-Rw.	Ross	Smith	.....	Oneida
.....	.....	.....	Conn	Bat.	A-L	A-L	6-8	B&B.	SP	Own.	Un.E.	3	Own	Met	20⅞	23¼	Ext-Rw.	Int-Rw.	Own	Hayes	Art	Overland
Own.	1000	15	Bijur	.....	Split*	Bijur*	6-8	Own.	MDD	Own.	S.U.	4	Spicer	Met	44	58	Ext-DS.	Int-Rw.	Own	Prud	Art	Packard
Own.	1800	27	Bijur	.....	Split*	Bijur*	12-16	Own.	MDD	Own.	S.U.	4	Spicer	Met	44	58	Ext-DS.	Int-Rw.	Own	Detr	CS	Packard
.....	.....	.....	A-K	Bat.	Bijur	Bijur	6-8	B&B.	SP	Covert	S.U.	3	Therm	Fab	38	50	Int-Rw.	Int-Rw.	C.A.S	Bimel	Art	Patriot
Hink.	.....	.....	Split	Mag.	Bijur*	Bijur*	6-8	Covert	MDD	Fuller.	S.U.	4	Therm	Fab	40	52	Int-Rw.	Int-Rw.	Ross	Bimel	Art	Patriot
Dup.	1000	16	Split	Mag.	.....	.....	.....	.....	MDD	Fuller.	Un.E.	3	Univ	Met	38	46	Int-Rw.	Int-Rw.	Lav	Stand	Art	Ranger
.....	.....	.....	N-E	Bat.	N-E	N-E	6-8	Own.	MDD	Own.	S.U.	3	Own	M&E.	38	40	Ext-Rw.	Int-Rw.	Own	Tuare	Art	Reo
Pharo.	2000	25	Bosch	Mag.	A-L	A-L	6-8	Fuller.	MDD	Fuller.	Un.E.	4	Spicer	Met	44	60	Ext-Rw.	Int-Rw.	Ross	Motor	.....	Republic

L-N—Leece-Neville
N-E—North East
*—Optional at extra cost
Bat—Battery
Mag—Magneto

CLUTCH:
B-L—Brown-Lipe
B. & B.—Borg & Beck
H-S—Hele-Shaw
Detl—Detlaff
Durst—Durston
Hoos—Hoosler
S. P.—Single Plate
M. D. D.—Multiple Dry Disk
M. D. O.—Multiple Disk in Oil

GEARSET:
B-L—Brown-Lipe
G-L—Grant-Lees
Warn—Warner
Camp—Campbell
Detr—Detroit
Un. E.—Unit with Engine
S. U.—Separate Unit
Un. J.—Unit with Jackshaft

UNIVERSAL JOINT:
Hart—Hartford
Therm—Thermoid Hardy
Univ—Universal
M. & E.—Merchant & Evans

BRAKES:
Int-RW—Internal Rear Wheels
Ext-RW—External Rear Wheels
Ext-DS—External Drive Shaft

STEERING:
Lav—Lavine
Wohl—Wohlrab
Gemm—Gemmer

WHEELS:
St. M.—St. Marys
Schwa—Schwartz
Stand—Standard
John—Johnson
Indes—Indestructible
Mutu—Mutual
Ars—Archibald
Detr—Detroit
Prud—Prudden
Hoopes—Hoopes Bros. & Darlington
A. W.—Atlas Wheel
Art—Artillery
C. S.—Cast Steel
P. S.—Pressed Steel
Opt—Optional

American Gasoline Motor Bus

MAKE AND MODEL	RATING				FRONT AXLE ASSEMBLY				REAR AXLE ASSEMBLY						FRAME				ENGINE			
	In Tons	Passenger Capacity	Wheelbase (Ins.)	Chassis Weight (Lbs.)	Make	Tread (Ins.	Road Clearance (Ins.)	Tires: Type and Size (Ins.)	Tires: Type and Size (Ins.)	Road Clearance (Ins.)	Tread (Ins.)	Make	Final Drive	Total Gear Reduction	Height to Top of Frame at Dash (Ins.)	Type of Frame at Rear Axle	Outriggers Attached to Frame?	Make	Make	No. of Cylinders Bore and Stroke	FUEL SYSTEM Carburetor Make	Gov. Make
Rock Falls.....15	¾	....	151	....	Timk...	56	10	P-35x5	P-35x5	11	56	Timk...	S.B...	4.90	.....	Straight.	No...	P. & B...	Cont....	6-3⅜x5¼	Ray....	Va...
Rowe.....CW	1½	....	133	3820	Sheld...	56	10½	P-36x6	P-36x6	11	56	Sheld...	W....	6.50	34	Straight.	No...	Own....	Wisc....	4-3¾x5	Zenith..	Gra...
Rowe.....CDW	2	....	140	4500	Sheld...	58	10½	P-36x6	P-40x8	11	59½	Sheld...	W....	7.75	34	Straight.	No...	Own....	Wisc....	4-4 x5	Zenith..	Gra...
Rowe.....CDW	2½	....	142	4800	Sheld...	58	10½	P-36x6	P-40x8	11	58	Sheld...	W....	7.75	34	Straight.	No...	Own....	Wisc..	4-4¼x5	Zenith..	Gra...
Ruggles.....20R	1	16	128	2800	Colum..	56	10	P-34x5	P-34x5	10	56	Colum..	S.B....	5.12	29½	Straight.	No...	Hydr...	Own....	4-4 x5	Strom...	Gra...
Ruggles.....40	2	....	148	4250	Colum..	56	11½	P-34x5	S-34x7	9½	57½	Wisc....	D.R..	7.00	31¾	Straight.	No...	Hydr...	Own....	4-4 x5	Strom...	Gra...
Sanford.....15	1½	....	132	3850	Sheld...	56	12¼	P-36x6	P-36x6	12	56	Sheld...	W....	6.50	29¾	Straight.	No...	P. & B...	Cont....	4-3¾x5	Zenith..	Va...
Service.....12	¾	12	128	2720	Own....	56½	9½	P-32x4½	P-32x4½	9	56½	Timk...	S.P...	6.11	.....	Straight.	Opt...	Savage..	Midw...	4-3⅝x4½	Strom...	Gra...
Service.....25	1¼	25	132	3300	Shul....	.....	9¾	P-34x5	P-34x5	9¼	.....	Eaton...	S.P...	5.62	.....	Straight.	Opt...	Savage..	Buda...	4-3¾x5½	Zenith..	Va...
Service.....32	2	....	150	4850	Timk...	58	58	S*-36x3½	S*-36x7	10¾	58	Timk...	W....	.....	.....	Straight.	Opt...	Savage..	Buda...	4-4¼x5½	Strom...	Va...
Service.....52	3	....	160	5180	Timk...	58	12	S-36x4	S-36x8	10	58½	Timk...	W....	.....	.....	Straight.	Opt...	Savage..	Buda...	4-4¼x5½	Strom...	Va...
Selden.....52	....	29	.....	.....	.....	.....	.....	C-36x4	C-36x6	.....	.....	.....	W....	6.00	.....	Kickup..	No...	Own....	Cont....	4-	Strom...	
Standard.....AK	....	28	190	....	Timk...	68	8½	P-36x6	P-36x10	6½	72	Timk...	W....	7.00	30	Kickup..	Yes...	.....	Cont....	4-4½x5½	Strom...	Va...
Stoughton.....C	¾	15	131	2480	Colum..	56	11¾	P-34x4½	P-34x4½	10½	56	Colum..	S.B....	5.20	27¼	Straight.	Yes...	Smith...	Midw...	4-3½x4½	Zenith..	Va...
Stoughton.....B	1½	16	140	3730	Sheld...	55⅝	10⅜	P-34x5	P-34x5	11	57	Sheld...	W....	6.50	30	Straight.	No...	Smith...	Wauk...	4-3¾x5¼	Strom...	Gra...
Stoughton.....D	2	24	140	4600	Sheld...	56	11¼	P-36x6	P-40x8	7⅜	59½	Sheld...	W....	8.66	30	Straight.	Yes...	Smith...	Herc....	4-4 x5½	Strom...	Gra...
Thomart.....20	1¼	16	134	3600	Eaton...	56	13	P-34x5	P-34x5	10	56½	Eaton...	S.B....	5.12	28½	Straight.	No...	Hydr...	Hink....	4-4 x5¼	Strom...	Gra...
Traffic.....	1½	16	128	1595	Own....	56	11¾	P-35x5	P-35x5	13½	56	Russ....	I.G....	6.15	30	Straight.	No...	Own....	Cont....	4-3¾x5	Carter..	Gra...
Traffic.....	2	....	132	1595	Own....	56	10¾	S-34x3½	S-34x5	12	56	Russ....	I.G....	7.00	29½	Straight.	No...	Own....	Cont....	4-3¾x5	Carter..	Gra...
Traffic.....	3	....	135	1895	Own....	56	11¾	S-36x4	S-36x7	13½	62½	Russ....	I.G....	8.80	30	Straight.	No...	Own....	Cont....	4-3¾x5	Carter..	Gra...
Ultimate.....AJL	2	25	156	4600	Sheld...	59½	8½	P-36x6	P-36x6d	8	60	Sheld...	W....	6.50	30	Straight.	Yes...	Parish...	Buda...	4-4¼x5½	Strom...	Gra...
Ultimate.....B	3	30	154	5340	Sheld...	59½	8½	P-36x6	P-36x6d	8	60	Sheld...	W....	7.75	30	Straight.	Yes...	Parish...	Buda...	4-4¼x5½	Strom...	Gra...
United States.....U	1¼	16	138	3400	Shul....	56	12½	P-34x5	P-34x5	9¾	56	Clark...	S.B....	6.25	28	Straight.	Yes...	Own....	Buda...	4-3⅝x5½	Strom...	Va...
United States.....N	1½	23	144	3850	Shul....	58	11	S-36x3½	S-36x5	13	56	Clark...	I.G....	7.60	30	Straight.	No...	Own....	Cont....	4-3¾x5	Strom...	Va...
Velie.....46	1½	....	133	3650	Colum..	56	.....	P-35x5	P-38x7	.....	56	Torb....	I.G....	8.10	31¼	Straight.	.....	Hydr....	Cont....	4-3¾x5	Strom...	Gra...
White.....15	¾	....	133½	3225	Own....	56	10¾	P-34x5	P-34x5	10⅜	56	Own....	S.B....	5.36	29	Straight.	Yes...	.....	Own....	4-3¾x5⅛	Zenith...	Gra...
White.....50	....	25	198	5523	Own....	58⅜	10¾	S-36x4	S-36x7	9¼	60⅜	Own....	D.R..	6.83	27	Straight.	Yes...	.....	Own....	4-4¼x5¾	Zenith...	Va...
Wilson.....F	1½	20	140	3800	Timk...	56	11	P-35x5	P-35x5d	10½	56	Timk...	W....	6.00	33	Straight.	Yes...	Own....	Cont....	4-3¾x5...	Holley..	Gra...
Wilson.....EA	2½	32	152	4625	Timk...	58	12	P-36x6	P-36x6d	11	58	Timk...	W....	6.80	36	Straight.	Yes...	Own....	Cont....	4-4¼x5¼	Holley..	Gra...
Wilson.....G	3½	....	160	6800	Timk...	66	9	S-36x5	S-36x6d	8½	68	Timk...	W....	8.75	.....	Straight.	Yes...	Own....	Cont....	4-4½x5½	Holley..	Va...
Witt-Will.....N	1½	24	144	4000	Timk...	58	12	S*-36x3½	S*-36x5	10	58	Timk...	W....	7.00	33	Straight.	Yes...	Parish...	Cont....	4-4½x5¼	Zenith...	Va...
Yellow Cab.....M22	¾	....	117	2400	Timk...	56	9⅝	P-33x4½	P-33x4½	9⅝	56	Timk...	S.B....	4.90	.....	Straight.	Yes...	Smith...	Cont....	4-3¾x5	Zenith...	Gra...

For abbreviations see pages 416-417.

German Truck Design

GERMAN truck manufacturers number 27 and they produce 70 different truck models. Of these 27 manufacturers, 8 produce one model; 2 firms make two models; 10 make three models and 6 firms produce four models. Trucks are built in the following capacities: One model has a capacity of .85 to 1.1 tons; five models have 1.85 tons capacity; fifteen models are of 2.2 to 2.85 tons size; 24 models have 3.3 to 3.85 tons capacity while 13 models have 4.4 to 4.85 tons capacity and 11 models have 5.5 tons capacity.

Four-cylinder engines are almost universal; 77.2 per cent of them have their cylinders cast in pairs and the remaining 22.8 per cent are cast in block. Only 10.4 per cent of models have detachable heads and 6 per cent have cylinders of welded steel or cast steel as used by the Daimler and Daag companies. Twenty-eight per cent of engines are fitted with light metal pistons.

The L-head type engine predominates with 57.2 per cent, the I-head follows with 21.4 per cent; 11.4 per cent of models have a T-head and the F-head appears on 10 per cent of models. The I and F-head types gained considerably over last year.

Crankshaft bearings are divided as follows: 78.6 per cent have three plain crankshaft bearings; 12.6 per cent have four plain bearings; 5.5 per cent have three ball bearings and 2.85 per cent have two and three roller bearings.

Camshaft drive is divided as follows: 66.3 per cent spur gears; 23.8 per cent helical gears and chain drive 9.9 per cent. This applies to cylinders with other than I-head construction.

Pump cooling is found on all models not obviously redesigned passenger cars. The belt drive fan is universal with the exception of the two Horch models which have chain drive with friction clutch.

Radiator cores are 87.6 per cent of the tubular type and 11.4 per cent are honeycomb. About 15 per cent of all models are equipped with sectional cores and practically all radiator casings are made of brass sheet. Cooling thermostats are used only on NAG trucks.

German truck manufacturers have abandoned altogether the simple splash system of lubrication. Seventy per cent of models have a pressure circulating system and 30 per cent have a combined splash and pressure system. Oil pump types are divided as follows: 77.2 gear pump, 20 per cent piston, 2.85 per cent eccentric.

It is interesting to note that 11.2 per cent of all models (among them the Daimler, Bussing and Opel) use their own carbureter system. Fifty-three per cent of all models use the German Pallas carbureter; 11 per cent use the French Zenith and the rest use other German equipment.

Vacuum fuel feed leads the field with 27.7 per cent. The remaining fuel feed systems are divided as follows: 23 per cent exhaust gas pressure; 21.3 per cent gravity; 20 per cent air pressure; 8.6 per cent combined gravity and pressure.

Bus Specifications (Continued)

ENGINE			ELECTRICAL SYSTEM					CLUTCH		GEARSET			UNIVERSAL		SPRINGS		BRAKES			WHEELS		
Governor Make	MAXIMUM GOVERNED SPEED In. R.P.M. of Engine	MAXIMUM GOVERNED SPEED In. M.P.H. of Bus	IGNITION SYSTEM Make	IGNITION SYSTEM Current Sources	Generator Make	Starter Make	Voltage	Make	Type	Make	Location	No. of Forward Speeds	Make	Type	Length Front	Length Rear	Foot: Type and Location	Hand: Type and Location	Steering Gear Make	Make	Type	MAKE
	.....	.....	Bosch	Mag.	West	West	6-8	B&B	SP	Detr.	Un.E.	3	Spicer	Met.	40	60½	Ext-Rw.	Int-Rw.	Gemm	Mutual.	Art.	Rock Falls
	1650	27	Bosch	Mag.	*	*	6-8	B-L	MDD	B-L.	Un.E.	4	Spicer	Met.	41	51	Int-Rw.	Int-Rw.	Ross	Hoopes.	Art.	Rowe
	1500	21	Bosch	Mag.	*	*	6-8	B-L	MDD	B-L.	Un.E.	4	Spicer	Met.	41	51	Int-Rw.	Int-Rw.	Ross	Hoopes.	Art.	Rowe
	1500	21	Bosch	Mag.	*	*	6-8	B-L	MDD	B-L.	Un.E.	4	Spicer	Met.	41	51	Int-Rw.	Int-Rw.	Ross	Hoopes.	Art.	Rowe
	.....	.....	Remy	Bat.	Remy	Remy	6-8	B-L	MDD	B-L.	Un.E.	3	Spicer	Met.	38	52	Ext-Rw.	Int-Rw.	Jacox	North	Art.	Ruggles
	.....	.....	Bosch	Mag.	.....	.....	.....	B-L	MDD	B-L.	Un.E.	4	Spicer	Met.	38	52	Ext-Rw.	Int-Rw.	Jacox	North	Art.	Ruggles
	.....	.....	Eisem.	Mag.	Dyneto *	Dyneto *	6-8	B-L	MDD	B-L.	Un.E.	3	Spicer	Met.	40	54	Int-Rw.	Int-Rw.	Ross	Indes.	Art.	Sanford
	.....	.....	Remy	Bat.	Remy	Remy	6-8	Hoos.	SP	Detr.	Un.E.	3	M&E	Met.	38	50	Int-Rw.	Int-Rw.	Ross	Bimel.	Art.	Service
	.....	.....	Remy	Bat.	Remy	Remy	6-8	B-L	SP	B-L.	Un.E.	3	M&E	Met.	40	54	Int-Rw.	Int-Rw.	Ross	Bimel.	Art.	Service
	.....	.....	Eisem.	Mag.	West*	West	6-8	B&B	SP	B-L.	S.U.	4	M&E	Met.	42	54	Int-Rw.	Int-Rw.	Ross	Bimel.	Art.	Service
	.....	.....	Eisem.	Mag.	West*	West*	6-8	B&B	SP	B-L.	S.U.	4	M&E	Met.	42	54	Int-Rw.	Int-Rw.	Ross	Bimel.	Art.	Service
	.....	25	Eisem.	Bat.	.....	.....	6-8	B-L	MDD	B-L.	Un.E.	4	Spicer	Met.	.....	.....	-Rw.	-Rw.	.....	.....	.....	Selden
	1250	25	Eisem.	Mag.	Bosch	Bosch	6-8	B-L	MDD	B-L.	S.U.	4	Spicer	Met.	46	58	-Rw.	-Rw.	Gemm	.....	Art.	Standard
	.....	.....	Remy	Bat.	Remy	Remy	6-8	Detl.	MDD	Camp.	Un.E.	3	Therm.	Fab.	35	50	Int-Rw.	Ext-Rw.	Lav.	Royer	Art.	Stoughton
	.....	18	Eisem.	Mag.	Dyneto *	Dyneto *	6-8	B-L	MDD	B-L.	Un.E.	3	Therm.	Fab.	39	50	Int-Rw.	Int-Rw.	Lav.	Royer	Art.	Stoughton
	.....	18	Eisem.	Mag.	West*	*	6-8	B-L	MDD	B-L.	Un.E.	.....	Therm.	Fab.	39	50	Int-Rw.	Int-Rw.	Ross	Royer	Art.	Stoughton
	.....	.....	West	Bat.	West	West	6-8	Warn.	MDD	Warn.	Un.E.	3	Snead	Fab.	39	54	Int-Rw.	Int-Rw.	Ross	Bimel.	Art.	Thomart
	.....	.....	Bosch	Mag.	G&D	G&D	6-8	Covert	MDD	Covert	Un.E.	3	Snead	Met.	36½	46	Ext-Rw.	Int-Rw.	Own	Dayton.	Art.	Traffic
	.....	.....	Bosch	Mag.	G&D	G&D	6-8	Covert	MDD	Covert	Un.E.	3	Snead	Met.	36½	46	Ext-Rw.	Int-Rw.	Own	Bimel.	Art.	Traffic
	.....	.....	Bosch	Mag.	G&D	G&D	6-8	Covert	MDD	Covert	Un.E.	3	Snead	Met.	36½	46	Ext-Rw.	Int-Rw.	Own	Bimel.	Art.	Traffic
	1200	20	Eisem.	Mag.	Bosch*	Bosch*	6-8	B-L	MDD	B-L.	Un.E.	4	Spicer	Met.	39	52	Int-Rw.	Int-Rw.	Ross	Jones	Art.	Ultimate
	1200	20	Eisem.	Bat.	Bosch*	Bosch*	6-8	B-L	MDD	B-L.	Un.E.	.....	Spicer	Met.	39	52	Int-Rw.	Int-Rw.	Ross	Jones	Art.	Ultimate
	.....	.....	Bosch	Bat.	Bosch	Bosch	6-8	Fuller	MDD	Fuller	Un.E.	3	Blood	Met.	38	48	Ext-Rw.	Int-Rw.	Lav.	Schwa.	Art.	United States
	.....	.....	.....	.....	Bosch*	Bosch*	6-8	Fuller	MDD	Fuller	Un.E.	3	Blood	Met.	38½	54	Ext-Rw.	Int-Rw.	Lav.	Schwa.	Art.	United States
	.....	20	A-K	Mag.	Bijur	Bijur	6-8	B&B	S.P.	Durst.	Un.E.	3	Arvac	Met.	40	54	Ext-Rw.	Int-Rw.	Ross	Mutual.	Art.	Velie
	.....	.....	N-E*	Mag.	N-E*	N-E*	12-16	Own.	S.P.	Own.	S.U.	.....	Own.	Fab.	40⅜	50⅜	Ext-Rw.	Int-Rw.	Own	.....	Art.	White
	1500	.....	.....	Mag.	L-N*	L-N*	12-16	Own.	S.P.	Own.	Un.E.	.....	Own.	Fab.	41½	60	Ext-DS.	Int-Rw.	Own	.....	CS.	White
	1100	20	Eisem.	Mag.	*	*	6-8	B&B	S.P.	Cotta	S.U.	4	Hart	Fab.	38	52	Int-Rw.	Int-Rw.	Lav.	Bimel.	Opt.	Wilson
	1150	15	Eisem.	Mag.	*	*	6-8	B&B	S.P.	Cotta	S.U.	4	Hart	Fab.	40	52	Int-Rw.	Int-Rw.	Ross	Bimel.	Opt.	Wilson
	1100	13	Eisem.	Mag.	*	*	6-8	B&B	.....	Cotta	S.U.	4	Hart	Fab.	46	60	Int-Rw.	Int-Rw.	Ross	Smith	Opt.	Wilson
	1000	25	Eisem.	Mag.	.....	.....	.....	B-L	MDD	B-L.	Un.E.	4	Spicer	Met.	.....	54½	Int-Rw.	Int-Rw.	Ross	Arch	Opt.	Witt-Will
	.....	.....	Bosch	Mag.	.....	.....	.....	B-L	MDD	B-L.	Un.E.	3	Spicer	Met.	.....	.....	Ext-Rw.	Ext-DS.	Gemm	.....	Art.	Yellow Cab

Shows Little Change

Ignition is almost exclusively by magneto and on about 80 per cent of models this is Bosch equipment. Spark control is in 65.7 per cent of cases by hand lever and automatic 24.3 per cent. In the remaining 10 per cent of cases the spark is fixed.

Lighting systems are 75.6 per cent electric Bosch equipment and the rest acetylene. The dynamo is almost always located at the side of the engine and is belt driven. Batteries are usually carried on the running board. Starting systems are used on 63 per cent of models, provision for it appears on 14 per cent of models and the rest are unequipped.

German truck manufacturers prefer the cone clutch. Forty-seven per cent of models have leather-lined cone clutches and 23 per cent have Ferodo lining. Double leather cone appears on 5.8 per cent models and metal cones on 4.3 per cent, while disk in oil appear 15.5 per cent and dry disk clutch is used only on the Hansa-Lloyd. Gearsets have four speeds and clutch brakes are used almost universally.

Gearsets separate from the power plant are found on 90 per cent of truck models and ball bearings are used on all but three models, which use ball and roller combined and one with roller bearings throughout.

Selective type gear changed by means of a lever on the right side is used on all models with one exception, that being a truck manufactured by the Lippische Werkstätten which has hydraulically operated gearshift operated from the steering wheel and employs front wheel drive.

Shaft drive leads in popularity with 71.5 per cent. Internal gear drive and front wheel drive appear once in each case and the remainder are chain driven trucks. A single joint and tube, taking up torque and propulsion is found most commonly. Final drive is divided as follows: about 80 per cent bevel gears; 12 per cent worm and 6 per cent spiral bevel; 44.3 per cent of all models have a reduction gear in the rear axle.

Cast steel wheels predominate for truck equipment; 78.3 per cent of models use this type; 17.4 per cent use wood wheels and 14.3 per cent mount disk wheels. Front wheel bearings are ball in the majority of cases.

The Mercedes type of front axle is used on 68.6 per cent of all models and the rest use the forked type.

The type of steering gear used is about evenly divided between the screw and nut, and worm and wheel types, generally not adjustable in either case.

German truck manufacturers prefer to use the external contracting transmission brake and internal expanding rear wheel brake. On only one model are both brakes placed on the rear wheels and four-wheel brakes appear on one model. The balance lever brake equalizer system is used on 84.3 per cent of models and the bevel gear differential follows with 10 per cent.

The use of semi-elliptic front and rear springs is universal.

Benno R. Dierfeld

Six-Wheelers Prominent in Current British Truck Design

Few new models. Motor bus developments of chief interest in present practice. More attention will be given to light delivery trucks in future. Solid tires for over 1 ton jobs.

By M. W. Bourdon

DURING the past two years the British truck industry has been at a very low ebb, not only by reason of the depression in trade generally, but also because the market has been asked to absorb the many thousands of Government surplus trucks and chassis. But comparatively few of these Government trucks remain to be sold, and brighter times are just ahead.

The state of the industry has not encouraged the introduction of new models, and the few new chassis that have been brought forward have remained comparatively unnoticed owing to the decision not to hold a Truck Show during 1922.

Up to the present only one British maker (Albion) has put forward a chassis complying more or less with the requirements of the War Department (as published in AUTOMOTIVE INDUSTRIES of Aug. 17 last). Albion, however, has departed from the specifications by retaining its special system of engine lubrication by individual pumps to each main bearing.

Six-Wheelers Best for Heavy Loads

The opinion seems to be widely held that increase of unit loads above 12,000 lb. or so is best cared for by six-wheeled vehicles. Hence we find a growing number of such vehicles. Severable available outfits are tractors designed to accommodate a two-wheeled pivoted trailer, while others are in the nature of conversion sets made up by truck body builders and truck dealers.

There is no inclination to design chassis for pneumatic tires for loads over one ton. The number of chassis for one-ton loads is very small, the most popular type at present being the 2-3 tonner, next to that being the 3½ to 5 tonner. All engines are four cylinder with one exception, a Halley six-cylinder model for four ton loads. Sixty-six per cent of four cylinders are cast in pairs, and there are very few examples of block cast cylinders with a bore of over 3½ inches; integral cylinder heads are used in 70 per cent of models.

Until 1919 a large proportion of cylinders had T heads. The percentage today stands at 6 per cent, as compared with 16.5 per cent last year. Overhead valves remain at 7 per cent. Sleeve valves and F head cylinders have also been stationary, while 84 per cent of all engines have L heads. There is very little variation in camshaft drives to record; chains are used in 31 per cent of models (as compared with 32 per cent last year), straight pinions in 20 per cent (23 per cent), a corresponding gain having been made by helical gears, which now stand at 46 per cent; 86 per cent of trucks have pump circulation, though the thermo-syphon system is used in examples of all sizes even up to 5 tonners.

For engine lubrication the splash (trough) system is the most popular (40 per cent), followed by pressure through a drilled crankshaft (35 per cent); only three engines have oil leads taken up to the small ends of the connecting rods. Aluminum pistons (7 per cent) show no gain. The Zenith carbureter is by far the most popular, being used on 64 per cent of models, next in favor being the Claudel (25 per cent). Gravity feed for the fuel appears on 88 per cent of models, approximately the same as twelve months ago; on 68 per cent of chassis the fuel tank is beneath the driving seat.

The cone clutch is still most popular, being used on 74 per cent of trucks, a drop of only 2 per cent, in favor of the dry and multi-plate patterns, respectively standing at 23 and 3 per cent. Unit powerplants show a gain of only 1 per cent, the amidship gearset appearing on 94 per cent of models. Seventy-seven per cent of chassis have four speeds with right-hand side control. The metallic type of universal joint for clutch coupling shafts and for propeller shafts has shown no further loss to the fabric disk pattern, which latter now comprises 21 per cent of joints of all types, but one or two prominent makers prefer leather instead of fabric for disk joints.

In respect of final drives, worm gearing has advanced still further, being used on 62 per cent of chassis as against 57 per cent last year and 52 per cent in 1921. Chain drive continues to recede, though several prominent makers still use it on all sizes. Double reduction gears have decreased on a percentage basis, though no maker has discarded them. Internal gear drives do not appear on any British trucks.

Semi-Elliptic Springs Universal

Semi-elliptic springs are universal, except that the Palladium truck chassis, when supplied for passenger work has superimposed cantilevers at the rear. Brakes usually consist of a set of hand-applied shoes within the wheel drums and an external transmission brake operated by pedal. Making an exception of two gasoline electrics, no British truck has external wheel brakes; 20 per cent have both sets applying to the wheel drums.

Worm and complete worm wheel steering gears are used on 51 per cent of chassis, the worm and segment type remaining at 41.5 per cent, the others being worm and nut. Nine per cent now have the steering wheel at the side of the engine; in 1.5 per cent of chassis it is above and in 4.5 per cent of models the arrangement is optional.

Continental Truck Design Stagnant

War vehicles still flood the market. Few new models brought out. Most extensive production in 3½ ton class. All models use magneto ignition. L-head type engines dominate the field.

By W. F. Bradley

CONTINENTAL truck design is still suffering from the war and after-war effects. So many thousands of American, French and Italian trucks have been thrown on the market, and are still being liquidated, that sales of new vehicles have been reduced to a very low figure, and in view of the slump new models are not being brought out.

The type of truck most extensively produced is a 3½-ton model, the 5-ton truck coming next in order of importance. During the last two years the French Government has sought to encourage the adoption of a 7½-ton truck, which is a type required for military duty. This effort has not met with any success, for the military type 7½-ton truck with a long wheelbase and big platform does not meet any civilian requirement. Where trucks of this capacity are used, it is for such work as hauling blocks of stone, where a short wheelbase and an appropriate type of body are necessary.

Steam trucks occupy an almost insignificant position in France, Italy and Belgium. There has been some attempt to adopt gas producer plants to existing trucks, but from a commercial standpoint the venture has not assumed any proportions. The four-cylinder gasoline type engine dominates the field, with 73 per cent of the engines having block cast cylinders. The L-head type engine, with fixed cylinder head, is in an immense majority. There are no T-head engines, while the Knight engine is used for truck service by only one firm.

In 70 per cent of the models, water circulation is by pump; in 30 per cent by thermo-syphon. No belt driven impeller systems are used on Continental trucks. With the exception of Renault models, radiators are at the front, and are generally of the finned type. There is an extended use, on heavy trucks, of a type of radiator with independent demountable elements, which makes it possible to shut off any element or even to remove it entirely while on the road. This type of radiator is insisted on by the War Department.

Universal Use of Magneto Ignition

Ignition is exclusively by magneto, generally with variable advance. On trucks of 3-ton capacity and upward it is not the general practice to fit a lighting set, although this is required on the latest type army vehicles, and it is partially because of this absence of electricity for lighting purposes that the position of the magneto has not been assailed for truck work.

There is a fairly extensive use of makers' own carbureters for truck service, contrary to the practice for passenger cars. Thus, of the big makers Berliet, Delaunay-Belleville, Fiat, Panhard, Renault and Saurer use their own carbureter, the others employing either the Solex or the Zenith. In practically all cases where the load capacity exceeds 2 tons engines are fitted with centrifugal governors operating on the throttle.

On 52 per cent trucks the full pressure lubricating system is used, while the remainder have pump oil circulation with either troughs for the connecting rods or centrifugal rings. The gear type oil pump is used in practically all cases.

Gearset Usually Separate from Engine

On 63 per cent of the total the transmission is mounted separately, while on 37 per cent it forms a unit with the engine. This indicates a slightly increased tendency toward unit construction for heavy trucks. It is understood that for 1½-ton trucks and less, where touring car practice is very prevalent, unit construction is in an immense majority. These small trucks, however, which are really offshoots of the passenger car, have been ignored in this review.

Four-speed gearboxes are used on all but six models, and of these exceptions four have three gears and two have five combinations. There is an entire absence of uniformity in the types of final drive, side chains, worm, bevel and spur, bevel only, internal gear and a final reduction by internal planetary gears in the rear wheels hubs, being among the systems in use. Saurer makes use of a single step down by bevel gearing for trucks having a load capacity as high as 7½ tons, but generally for these heavy trucks there is a double reduction either by bevel and internal gears, or, as on the newer Renaults and Berliets, with planetary gears in the rear wheel hubs. Side chains hold their position for heavy trucks and appear to be preferred by the military authorities.

All trucks drive to the rear wheels with the exception of the Latils, which either have drive to all four wheels or front wheel drive only, with the use of internal gears. Half elliptic springs are used exclusively for the front and in all but a few cases at the rear.

It is difficult in tabular form to show the proportion of solid and pneumatic tires, for in very many cases the equipment is optional up to 5 tons' useful load. The use of pneumatic tires is undoubtedly growing for heavy loads, the almost invariable combination being Michelin steel disk wheels employed in dual form at the rear with clincher bead cord tires of 155 mm. (6 in.) section. The biggest size pneumatic tire employed on the Continent has a section of 185 mm. (7½ in. roughly), but this has not by any means the same general use as the 155 mm.. tire. The straight side tire is not used at all in France, Italy or Belgium, and because of the moderate size of the pneumatics it is the invariable practice to have one size throughout with dual wheels at the rear.

British Gasoline Truck

MAKE	GENERAL						ENGINE													
				Tires						Cylinders						Fuel System			Max. Governed Speeds	
	Tons Capacity	Wheelbase (ins.)	Chassis Weight (lbs.)	Standard Type	Front Size (ins.)	Rear Size (ins.)	No. of Cylinders Bore and Stroke	Piston Displacement (cu. ins.)	Point Suspension	Head	Cylinder Type Valve Arrangem't	No. per Casting	Camshaft Drive	Cooling	Oiling System	Carbureter Make	Fuel Feed	Governor Type	In R. P. M. of Engine	In M. P. H. of
A. E. C.	4½	180	7050	S.	42x4¾	42x4¾d	4-4.25x5.5	312	4	Int.	L.	2	Ch.	Pu.	PS.	Zenith	Gr.	None		
A. E. C.	5½	180	7400	S.	40x5½	40x5½d	4-4.72x5.9	425	4	Int.	L.	2	Ch.	Pu.	PS.	Zenith	Gr.	Cent.	1350	20
Albion	1½	130	.....	S.	32x3½	32x3½d	4-3.5x5	192	3	Det.	L.	4	HG.	Pu.	M.	Zenith	Gr.	Cent.	1200	
Albion	2	130	.....	P.	36x6	38x7	4-3.85x5	231	4	Det.	L.	4	HG.	Pu.	M.	Zenith	Gr.	Cent.		15
Albion[1]	3	157	.....	S.	34x4	34x4d	4-4.5x5	318	3	Int.	L.	4	SG.	Pu.	M.	Zenith	Gr.	Cent.	1100	
Albion	4½	173	.....	S.	34x4½	34x5½d	4-4.5x5	318	3	Int.	L.	4	SG.	Pu.	M.	Zenith	Gr.	Cent.	1100	
Austin	2	126	3450	S.	28x3½	28x3½d	4-3.75x5	220	3	Det.	L.	4	Ch.	Pu.	Pr.	Zenith	Gr.	None		
Beardmore	1	100	2000	P.	32x4	32x4	4-3.12x4.72	145	3	Det.	L.	4	Ch.	Pu.	Pr.	Zenith	Gr.	None		
Belhaven	3½	160	5400	S.	34x4	34x4d	4-4.33x5.5	336	4	Int.	L.	2	HG.	Pu.	Sp.		Gr.	Cent.		
Belsize	¾	99	2000	P.	32x4	32x4	4-3.54x4.33	170	3	Int.	L.	4	Ch.	Pu.	Pr.	Zenith	Gr.	None		
Bristol	2¼	133	4480	S.	34x4	34x4d	4-3.75x5	220	3	Det.	L.	4	Ch.	Th.	Sp.	Claudel	Va.	Cent.	2000	32
Bristol	4½	174	7050	S.	40x4¾	40x4¾d	4-4.5x5.75	365	3	Int.	L.	2	Ch.	Th.	Sp.	Claudel	Gr.	Cent.	1600	24
Caledon[2]	4½	170	8750	S.	40x4¾	40x4¾d	4-4.75x5.5	389	3	Int.	L.	2	HG.	Pu.	Pr.	Claudel	Gr.	Cent.	1400	
Churchill	4	176	7000	S.	30x4½	30x4½d	4-5x6	487	4	Int.	L.	2	HG.	Pu.	Pr.	Claudel	Pr.	None		
Clyde	1¾	122	3470	S.	28x3½	28x3½d	4-3.74x5.11	226	4	Int.	L.	4	HG.	Pu.	Sp.		Gr.	None	1400	
Clyde	3½	168	6500	S.	34x4½	34x4½d	4-4.37x5.5	330	4	Int.	L.	4	HG.	Pu.	Sp.		Gr.	Cent.	1200	
Commer	2¼	133	4500	S.	34x4	34x4d	4-3.93x4.72	267	3	Int.	L.	2	HG.	Th.	Sp.	Claudel	Gr.	None		
Commer	4½	153	6200	S.	36x4¾	36x4¾d	4-4.33x5.5	336	3	Int.	L.	2	HG.	Th.	Sp.	Claudel	Gr.	None		
Commer[3]	30p	170	6100	S.	36x4¾	36x4¾d	4-4.52x5.5	362	3	Int.	L.	2	HG.	Th.	Sp.	Claudel	Gr.	None		
Commer	5½	160	7400	S.	36x4¾	36x4¾d	4-4.72x5.5	385	3	Int.	L.	2	HG.	Th.	Sp.	Claudel	Gr.	None		
Daimler	2¼	138	5040	S.	34x4	34x4d	4-3.74x5.5	242	3	Det.	S.	2	Ch.	Pu.	Sp.	Zenith	Gr.	None		
Dennis	3	144	5320	S.	34x4	40x4d	4-4.13x4.52	316	3	Int.	L.	2	SG.	Pu.	PS.	Claudel	Gr.	None		
Dennis[4]	4½	156	7050	S.	36x4¾	40x4¾d	4-4.52x5.9	398	3	Int.	L.	2	SG.	Pu.	PS.	Claudel	Gr.	None		
Enfield Allday	2½	147	4030	S.	34x4	34x4d	4-3.93x5.11	250	4	Int.	T.	2	SG.	Pu.	Pr.	Sthenos	Gr.	None		
Guy[5]	1	105	2240	P.	34x4½	36x5	4-3.34x4.48	157	3	Det.	L.	4	HG.	Th.	Sp.	Zenith	Gr.	None		
Guy	1¾	128	2700	S.	34x3	34x3d	4-3.46x4.48	163	3	Det.	L.	4	HG.	Th.	Sp.	Zenith	Gr.	None		
Guy	3	148	4816	S.	34x4	34x4d	4-4x5.5	276	3	Det.	L.	4	Ch.	Pu.	Pr.	Zenith	Gr.	None		
Halley	3	145	5040	S.	36x4	36x4¾d	4-4x5.25	263	4	Det.	L.	2	SP.	Pu.	PS.	Zenith	Gr.	Cent.	1200	17
Halley	4	160	6400	S.	36x4¾	36x4¾d	6-3.5x6	345	4	Det.	L.	3	Ch.	Pu.	Sp.	Zenith	Gr.	None		
Halley	6½	170	8400	S.	36x4¾	40x5½d	4-5x6.5	510	4	Int.	L.	2	HG.	Pu.	PS.	Zenith	Gr.	None		
Hallford	2	130	5150	S.	34x4	36x4d	4-3.93x5.51	269	3	Int.	L.	2	SG.	Pu.	Sp.	Zenith	Gr.	Cent.	1400	18
Hallford	3½	144	7300	S.	34x4¾	36x4d	4-4.33x5.51	300	4	Int.	L.	2	HG.	Pu.	PS.	Zenith	Gr.	Cent.	1200	15
Hallford	5	180	7600	S.	34x5½	40x5d	4-4.72x5.51	388	4	Int.	L.	2	HG.	Pu.	PS.	Zenith	Gr.	Cent.	1100	14
Karrier	1¾	132	3630	S.	36x3½	36x4¾	4-3.75x5.5	242	3	Det.	L.	4	HG.	Pu.	Sp.	Zenith	Gr.	None		
Karrier	2½	156	5240	S.	36x4	36x4d	4-4.5x5	318	3	Int.	L.	2	HG.	Pu.	Sp.	Zenith	Gr.	None		
Karrier	3½	168	7700	S.	36x4	36x4¾d	4-4.5x6	381	3	Int.	L.	2	Ch.	Pu.	Sp.	Zenith	Gr.	None		
Karrier	4	168	7900	S.	36x4¾	40x4¾d	4-4.75x6	425	3	Int.	L.	2	Ch.	Pu.	Sp.	Zenith	Gr.	None		
Karrier	4½	168	8000	S.	36x4¾	40x4¾d	4-5x6	471	3	Int.	L.	2	Ch.	Pu.	Sp.	Zenith	Gr.	None		
Leyland	2½	141	5600	S.	34x4	36x4d	4-4x5	251	4	Int.	L.	2	HG.	Pu.	Pr.	Claudel	Gr.	None		
Leyland	3½	157	5800	S.	34x4	36x4d	4-4.5x5	318	4	Int.	L.	2	HG.	Pu.	Pr.	Claudel	Gr.	None		
Leyland	4½	168	7900	S.	34x5	40x5d	4-4.64x6	412	4	Int.	L.	2	HG.	Pu.	Pr.	Claudel	Gr.	None		
Leyland	6½	170	8500	S.	34x5	40x5d	4-5x6	471	4	Int.	L.	2	HG.	Pu.	Pr.	Claudel	Gr.	None		
L. V. L.	1½	120	2600	S.	34x3	34x3d	4-3.75x5.5	242	4	Det.	L.	4	Ch.	Pu.	Pr.	Zenith	Gr.	Cent.	1600	19
Marathon	2½	126	3900	S.	34x3½	34x4	4-3.14x5.11	159	3	Det.	L.	4	HG.	Pu.	PS.	Zenith	Gr.	None		
Maudslay	3½	162	7300	S.	34x4¾	40x4¾d	4-4.5x5	318	4	Int.	I.	2	HG.	Pu.	Pr.	Zenith	Va.	None		
Maudslay	5	174	7900	S.	34x4¾	40x4¾d	4-5x5	392	4	Int.	I.	2	HG.	Pu.	Pr.	Zenith	Va.	None		
Maudslay	6½	186	8400	S.	34x6	40x6d	4-4.75x6	425	4	Det.	I.	4	Bv.	Pu.	Pr.	Zenith	Va.	None		
McCurd	4½	176	6400	S.	40x4¾	42x4¾d	4-4.48x5.51	349	3	Int.	T.	2	Wm.	Pu.	Sp.	Zenith	Gr.	None		
Pagefield	3½	174	5900	S.	34x4¾	34x4¾d	4-4.72x5.51	388	4	Int.	L.	2	HG.	Pu.	Pr.	Opt.	Gr.	Cent.	1000	16
Pagefield	5½	177	7840	S.	36x5½	42x5½d	4-5x5.5	431	4	Int.	L.	2	Ch.	Pu.	Pr.	Claudel	Gr.	Cent.	1000	16
Palladium	4	176	6720	S.	34x4¾	40x4¾d	4-4.5x5.5	349	3	Int.	L.	2	HG.	Pu.	SP.	Zenith	Gr.	Cent.	1250	17
Scammell[6]	11	120	11000	S.	36x4	36x5½d	4-5x5.5	431	4	Det.	I.	2	SG.	Pu.	Pr.	Zenith	Gr.	None		
Shefflex	1¾	132	3700	S.	28x3¼	28x3¼d	4-3.93x4.72	267	3	Int.	L.	2	SG.	Th.	Sp.	Claudel	Gr.	None		
Star	3	150	4700	S.	34x4	34x4d	4-3.54x5.9	243	4	Int.	L.	2	Ch.	Pu.	Pr.	Zenith	Va.	None		
Straker Squire	2	150	3800	S.	33x3½	33x3½d	4-3.74x5.11	226	4	Int.	L.	4	HG.	Pu.	Sp.	Zenith	Va.	None		
Straker Squire	5½	174	7600	S.	40x5½	40x5½d	4-4.5x6.5	413	3	Det.	I.	4	Ch.	Th.	PS.	Zenith	Va.	Cent.	1300	20
Thorneycroft	2½	144	4800	S.	35x3½	36x3½d	4-4x5.5	276	3	Det.	F.	4	HG.	Pu.	Pr.	Solex	Gr.	Cent.	1350	20
Thorneycroft[7]	3½	156	6300	S.	40x4	40x4¼d	4-4.5x6	381	4	Int	T.	2	HG.	Pu.	Pr.	Solex	Gr.	Cent.	1250	20
Tilling Stevens[8]	3	144	4360	S.	34x4	34x4d	4-4.13x4.92	280	3	Int	L.	2	SG.	Pu.	Sp.	Zenith	Gr.	None		
Tilling Stevens[9]	(10)	198	8400	S.	36x4¾	40x4¾d	4-4.5x5.5	349	4	Det.	L.	2	Ch.	Pu.	Sp.	Zenith	Gr.	None		
Tilling Stevens[9]	4½	174	8200	S.	36x4¾	40x4¾d	4-4.75x5.5	389	4	Int.	L.	2	Ch.	Pu.	Sp.	Zenith	Gr.	None		
Tilling Stevens	5½	174	7700	S.	36x5½	40x5½d	4-5x6	471	3	Int.	L.	2	Ch.	Pu.	PS.	Zenith	Gr.	None		
Vulcan	1¾	138	3580	S.	34x3½	34x3½d	4-3.54x5.11	206	3	Int.	L.	4	SG.	Pu.	Sp.	Zenith	Gr.	Cent.	900	16
Vulcan	2½	132	3700	S.	34x4	34x4	4-3.74x5.11	272	4	Int.	L.	4	SG.	Pu.	Pr.	Zenith	Gr.	Cent.	900	16
Watson	4	156	7500	S.	32x4¾	40x4¾	4-4.52x5.51	368	4	Int.	L.	2	SG.	Pu.	Pr.	Claudel	Gr.	Cent.	1000	16

[1]Made with 6-in. longer wheelbase for 3½-4 ton loads.
[2]Same engine used in heavier chassis with similar specification for loads of 5½ and 7½ tons, latter with driver at side of engine.
[3]Chassis for bus or coach work.
[4]Also rated for 6½ ton loads with longer wheelbase and lower gear ratios.
[5]Also rated for 1½ tons with longer wheelbase and lower gear ratios.

Chassis Specifications

ELECTRICAL SYSTEM			TRANSMISSION										RUNNING GEAR						MAKE
				Gearset				Rear Axle					Brakes		Steering Gear				
Ignition System Make	Generator Make	Voltage	Clutch Type	Location	No. of Forward Speeds	Low Gear Ratio	Universals Type	Gear Ratio	Propulsion Taken By	Torque Taken By	Final Drive		Hand Type and Location	Foot Type and Location	Type	Drive Location	Wheels Type	Frame Material	
Connor	C.A.V.	12	SP.	SU.	4	47	F-M	9.25	Sp.	TA.	W		IRW.	IRW.	SN.	SE.	CS.	FP.	A. E. C.
Connor	Rotax	12	Co.	SU.	4	41.25	F-M	8.25	Sp.	Sp.	W		IRW.	IRW.	SN.	RE.	CS.	PS.	A. E. C.
	Extra		SP.	SU.	3		M		Sp.	Sp.	W		IRW.	EP.	WW.	RE.		PS.	Albion
			SP.	SU.	4		M		TT.	TT.	W		IRW.	EP.	WS.	RE.	CS.	PS.	Albion
	Extra		SP.	SU.	3		M		RR.	TA.	Ch.		IRW.	EP.	WW.	RE.		RS.	Albion[3]
	Extr		SP.	SU.	3		M		RR.	TA.	Ch.		IRW.	EP.	WW.	RE.		RS.	Albion
Various	Extra		SP.	UE.	4	37	M	8.6	Sp.	Sp.	W		IRW.	EP.	WW.	RE.	CS.	PS.	Austin
B.E.C.	Brolt	12	Co.	SU.	4	17	F	4.28	Sp.	Sp.	Bv.		IRW.	EP.	WS.	RE.	Wd.	PS.	Beardmore
			Co.	SU.	3		M		Sp.	Sp.	Bv.		IRW.	EP.	WS.	RE.		PS.	Belhaven
			Co.	UE.	4	18	M-L	3.62	Sp.	Sp.	SB.		IRW.	IRW.	WW.	RE.	HS.	PS.	Belsize
Simms	Smith	12	SP.	SU.	4	26.6	F	6	Sp.	Sp.	W		IRW.	EP.	WS.	SE.	CS.	PS.	Bristol
Simms	Smith	12	SP.	SU.	4	34	F	7.6	Sp.	Sp.	W		IRW.	EP.	WS.	RE.	CS.	PS.	Bristol
			Co.	SU.	4		F-M	9	Sp.	Sp.	W		IRW.	EP.	WS.	RE.	CS.	PS.	Caledon[2]
B.T.H.	Extra		Co.	SU.	4				RR.	RR.	Ch.		IRW.	EP.	WS.	RE.	CS.	RS.	Churchill
	Extra		Co.	SU.	4		M		Sp.	Sp.	W		IRW.	EP.	WW.	RE.		PS.	Clyde
	Extra		MD.	SU.	3				RR.	RR.	Ch.		IRW.	EP.	WW.	RE.	CS.	PS.	Clyde
	Extra		Co.	SU.	3				RR.	RR.	Ch.		IRW.	EP.	WW.	RE.	CS.	PS.	Clyde
	Extra		Co.	SU.	3	26	M	7.3	TT.	TT.	W		IRW.	EP.	WS.	RE.	CS.	PS.	Commer
Simms	Extra		Co.	SU.	3	27.4		7.5	RR.	RR.	Ch.		IRW.	EP.	WS.	RE.	CS.	PS.	Commer
Simms	Extra		Co.	SU.	4	29	M	6.75	TT.	TT.	W		IRW.	EP.	WS.	RE.	CS.	PS.	Commer[9]
Simms	Extra		Co.	SU.	4	40.7		9.3	RR.	RR.	Ch.		IRW.	EP.	WS.	RE.	CS.	PS.	Commer
Simms	Extra																		
	Extra		Co.	SU.	4		M	7.25	Sp.	Sp.	W		IRW.	IRW.	WW.	RE.	CS.	FP.	Daimler
Simms	C.A.V.	6	Co.	SU.	4	30.26	M	6.75	Sp.	Sp.	W		IRW.	EP.	WS.	RE.	CS.	PS.	Dennis
Simms	C.A.V.	6	Co.	SU.	4	40.1	M	7.75	TT.	TT.	W		IRW.	EP.	WS.	RE.	CS.	PS.	Dennis[4]
Simms			Co.	SU.	3	22	F	8	RR.	RR.	Ch.		IRW.	EP.	WS.	RE.	D.	PS.	Enfield Allday
Lucas	Extra		SP.	UE.	3	26.8	F	6.5	Sp.	Sp.	W		IRW.	IRW.	WW.	RE.	D.	RS.	Guy[5]
Lucas	Extra		SP.	UE.	4	30	F	7.25	Sp.	Sp.	W		IRW.	IRW.	WW.	RE.	CS.	RS.	Guy
Lucas	Extra		Co	SU.	4	27.4	M	6.83	Sp.	Sp.	BS.		IRW.	IP.	WW.	RE.	CS.	RS.	Guy
	C.A.V.	12	SP.	SU.	4	41	M	7.66	Sp	Sp	W		IRW.	EP.	WW.	RE.	CS.	PS.	Halley
	Extra		SP.	SU.	4		F	7.66	Sp.	Sp.	W		IRW.	IP.	WW.	Opt.	CS.	RS.	Halley
	Extra		SP.	SU.	4				RR.	RR.	Ch.		IRW.	EP.	WS.	Opt.	CS.	RS.	Halley
	Extra		Co.	SU.	3			Various	RR.	RR.	Ch.		IRW.	EP.	WS.	RE.	CS.	PS.	Hallford
	Extra		Co.	SU.	4			Various	RR.	RR.	Ch.		IRW.	EP.	WS.	RE.	CS.	PS.	Hallford
	Extra		Co.	SU.	4			Various	RR.	RR.	Ch.		IRW.	EP.	WS.	RE.	CS.	PS.	Hallford
									Sp.	Sp.	W					RE.	CS.	PS.	Karrier
	Extra		Co.	SU.	3				Sp.	Sp	W				WW.	RE.	CS.	PS.	Karrier
	Extra		Co.	SU.	4				Sp.	Sp.	BS.		IRW.	EP.	WW.	RE.	CS.	PS.	Karrier
	Extra		Co.	SU.	4		M		Sp.	Sp.	BS.		IRW.	EP.	WW.	Opt.	CS.	PS.	Karrier
	Extra		Co.	SU.	4		M		Sp.	Sp.	BS.		IRW.	E.	WW.	SE.	CS.	PS.	Karrier
	Extra		Co.	SU.	4		M	6.65	Sp.	Sp.	BS.		IRW.	E.	WW.	SE.	CS.	PS.	Karrier
			Co.	SU.	4		M	6.5	TT.	TT.	W		IRW.	EP.	WW.	RE.	CS.	PS.	Leyland
			Co.	SU.	4		M	7	TT.	TT.	W		IRW.	EP.	WW.	RE.	CS.	PS.	Leyland
			Co.	SU.	4		M	7.86	TT.	TT.	W		IRW.	EP.	WW.	RE.	CS.	PS.	Leyland
			Co.	SU.	4		M	8.9	TT.	TT.	BS.		IRW.	EP.	WW.	OE.	CS.	PS.	Leyland
			Co.	SU.	4		M						IRW.	IRW.	WW.	RE.	D.	RS.	L. V. L.
B.T.H.	Extra		Co.	SU.	4	28	F	6.5	Sp.	Sp.	W		IRW.	IRW.	WW.	RE.	D.	RS.	L. V. L.
Lucas	Extra		Co.	SU.	4		F	6.75	Sp.	Sp.	W		IRW.	EP.	WS.	RE.	D.	PS.	Marathon
	Extra		Co.	SU.	4		M	7.75	Sp.	Sp.	W		IRW.	EP.	WW.	RE.	CS.	RS.	Maudslay
	Extra		Co.	SU.	4		M	8.25	Sp.	Sp.	BS.		IRW.	EP.	WW.	RE.	CS.	RS.	Maudslay
	Extra		Co.	SU.	4		M	8.25	Sp.	Sp.	BS.		IRW.	EP.	WW.	SE.	D.	RS.	Maudslay
	Extra		Co.	SU.	4		M	7.1	RR.	TA.	W		IRW.	EP.	WW.	RE.	CS.	PS.	McCurd
Lucas	Extra		Co.	SU.	4	31.25	M	6.35	Sp.	Sp.	W		IRW.	EP.	WW.	RE.	D.	PS.	Pagefield
Lucas	Extra		Co.	SU.	4	39	M	7.8	TT.	TT.	BS.		IRW.	EP.	WW.	RE.	CS.	PS.	Pagefield
	Extra		MD.	SU.	4		M	7.8	RR.	TA.	W		IRW.	EP.	WW.	RE.	CS.	PS.	Palladium
Watford	Extra		Co.	SU.	3	48	F-M	10	RR.	Sp.	Ch.		IRW.	EP.	WS.	RE.	CS.	PS.	Scammel[6]
Simms	Extra		Co.	SU.	3	24	M	6.66	Sp.	Sp.	W		IRW.	EP.	WS.	RE.	CS.	PS.	Sheffiex
Watford	Brolt	12	Co.	SU.	4	24.9	M	6.8	RR.	TA.	W		IRW.	EP.	WW.	RE.	CS.	PS.	Star
Watford	C.A.V.	12	SP.	SU.	4		L		Sp.	TA.	W		IRW.	IRW.	WS.	RE.	CS.	PS.	Straker Squire
Fellowes	C.A.V.	12	SP.	SU.	4		M		Sp.	Sp.	W		IRW.	IRW.	SN.	SE.	CS.	P.	Straker Squire
Simms	C.A.V.	12	Co.	SU.	3	25.6	L	7.25	Sp.	Sp.	W		IRW.	EP.	SN.	RE.	CS.	PS.	Thorneycroft
Simms	C.A.V.	12	Co.	SU.	4	32.6	L	7.5	Sp.	Sp.	W		IRW.	EP.	SN.	RE.	CS.	PS.	Thorneycroft[7]
	Extra		Co.	SU.	4	27.3	M	6	Sp.	Sp.	W		ERW	IRW.	WS.	RE.	CS.	PS.	Tilling Stevens[8]
	Own						M	10.3	Sp.	Sp.	W		IRW.	ERW	WS.	SE.	CS.	PS.	Tilling Stevens[8]
	Own						M	10.3	Sp.	Sp.	W		IRW.	IRW.	WS.	RE.	CS.	PS.	Tilling Stevens[8]
	Extra		C.	SU.	4	33.15	M	6.5	Sp.	Sp.	W		IRW.	IRW.	WS.	RE.	CS.	PS.	Tilling Stevens
ML.	Brolt	6	Co.	SU.	4	24.8	M	6.2	Sp.	Sp.	W		IRW.	EP.	WW.	RE.	CS.	PS.	Vulcan
ML.	Brolt	6	Co.	SU.	4	24.8	M	6.2	Sp.	Sp.	W		IRW.	EP.	WW.	RE.	CS.	PS.	Vulcan
Simms	Extra		Co.	SU.	4	33.7	M	7.8	RR.	TA.	BS.		IRW.	EP.	WS.	RE.	CS.	RS.	Watson

[6]Tractor of six-wheels.
[7]Also rated for 4½, 5½ and 6½ tons with longer wheelbase and lower gear ratios.
[8]Also made with electric transmission.
[9]Electric transmission.
[10]Chassis for 50-64 passenger bus.

Continental Gasoline Truck

MAKE	GENERAL					ENGINE									
				TIRES				POINT SUSPENSION		CYLINDERS					
	Tons Capacity	Wheelbase (Ins.)	Track (Ins.)	Front. Type and Size (mm.)	Rear. Type and Size (mm.)	No. of Cylinders	Bore and Stroke (Ins.)	Main Frame	Sub-Frame	Number Per Casting	Head	Type. Valve Arrangement	Camshaft Drive	Cooling	Oiling System
FRENCH															
Aries	2½	161	67	S. 1000x130	S. 1000x130D	4	3.5x5.9	3	.....	4	Int.	L	S.G.	Pu	Pr
Aries	5	161	67	S. 1000x130	S. 970x160D	4	3.9x5.9	3	.....	4	Int.	L	S.G.	Th	Pr
Berliet	1½	140	67	P. 895x135	P. 895x135	4	3.5x5.1	3	.....	4	Det.	L	S.G.	Pu	Pr
Berliet	2½	155	67	P. 955x155	P. 955x155	4	4.3x5.5	3	.....	4	Int.	L	S.G.	Pu	Pr
Berliet	3½	152	70	P. 955x155	P. 955x155D	4	4.3x6.2	.....	3	2	Int.	L	S.G.	Th	Pr
Berliet	5	165	70	S. 850x140	S. 1030x160D	4	4.3x5.1	.....	3	2	Int.	L	S.G.	Th	Pr
Berliet	7½	185	69	S. 1030x180	S. 1030x160T	4	4.3x5.5	.....	3	2	Int.	L	S.G.	Pu	Pr
Delahaye	1	133	54	P. 835x135	P. 835x135	4	3.3x5.1	3	.....	4	Int.	L	S.G.	Pu	Pr
Delahaye	2	133	59	P. 935x135	P. 935x135D	4	3.3x5.1	3	.....	4	Int.	L	S.G.	Pu	Pr
Delahaye	4	163	62	S. 940x130	S. 1000x132D	4	3.9x6.2	.....	4	4	Int.	L	S.G.	Pu	Pr
Delaunay-Belleville	3	142	67	S. 930x120	S. 930x120D	4	3.5x5.9	.....	4	4	Int.	L	S.G.	Pu	Pr
Delaunay-Belleville	4	157	67	S. 930x120	S. 1000x140D	4	3.9x5.5	.....	4	2	Int.	L	S.G.	Pu	Pr
Delaunay-Belleville	5	157	67	S. 930x120	S. 1030x160D	4	3.9x5.5	.....	4	2	Int.	L	S.G.	Pu	Pr
Dewald	5	154	67	S. 950x140	S. 1000x140D	4	3.9x5.9	.....	4	2	Int.	L	S.G.	Pu	Pr
Dewald	7	168	67	S. 850x160	S. 970x180D	4	4.3x5.9	.....	4	2	Int.	L	S.G.	Pu	Pr
De Dion Bouton	3½	161	62	P. 955x155	P. 955x155D	4	3.9x5.5	3	.....	2	Det.	L	S.G.	Th	Pr
De Dion Bouton	5	169	67	S. 950x140	S. 1030x160D	4	4.3x5.9	4	.....	1	Det.	L	S.G.	Pu	Pr
Latil (b)	1½	137	59	P. 955x155	P. 955x155	4	3.3x5.1	3	.....	4	Int.	L	S.G.	Pu	Pr
Latil (b)	2	137	68	P. 955x155	P. 955x155D	4	4.0x5.5	3	.....	4	Int.	L	Ch.	Pu	Pr
Latil (b)	3	137	67	S. 920x120	S. 920x120D	4	4.0x5.5	3	.....	4	Int.	L	Ch.	Pu	Pr
Latil (d)	3(e)	118	71	S. 1160x120d	S. 1160x120D	4	4.8x6.3	3	.....	4	Int.	L	S.G.	Pu	Pr
Latil (d)	5	137	71	S. 1000x140(e)	S. 1000x130D(e)	4	4.0x5.5	3	.....	4	Int.	L	Ch.	Pu	Pr
Panhard-Levassor	½	106	51	P. 820x120	P. 820x120	4	2.4x4.0	3	.....	4	Det.	S	Ch.	Th	Sp
Panhard-Levassor	1	119	55	P. 835x135	P. 835x135	4	2.9x5.1	3	.....	4	Det.	S	Ch.	Pu	Sp
Panhard-Levassor	2	123	59	P. 895x135	P. 895x135D	4	2.8x5.5	3	.....	4	Det.	L	Ch.	Pu	Sp
Panhard-Levassor	3½	158	70	P. 955x155	P. 955x155D	4	3.3x5.5	3	.....	4	Det.	S	Ch.	Pu	Sp
Panhard-Levassor	4	158	70	P. 1085x185	P. 1085x185D	4	3.3x5.5	3	.....	4	Det.	S	Ch.	Pu	Sp
Peugeot	4	154	63	S. 940x130	S. 1000x130D	4	3.9x5.9	4	.....	4	Int.	L	S.G.	Pu	Pr
Renault	¼	96	44	P. 700x 80	P. 700x 80	4	2.2x3.5	.....	4	4	Int.	L	S.G.	Th	Pr
Renault	¾	119	56	P. 820x120	P. 820x120	4	2.9x4.7	.....	4	4	Int.	L	S.G.	Th	Pr
Renault	1¼	145	60	P. 820x120	P. 820x120D	4	3.1x5.5	.....	4	4	Int.	L	S.G.	Th	Pr
Renault	1½	126	60	P. 820x120	P. 820x120D	4	3.1x5.5	.....	4	4	Int.	L	S.G.	Th	Pr
Renault	1¾	145	60	P. 820x120	P. 820x120D	4	3.1x5.5	.....	4	4	Int.	L	S.G.	Th	Pr
Renault	3	165	67	S. 950x140	S. 1030x160D	4	3.7x6.3	.....	3	4	Int.	L	S.G.	Th	Pr
Renault	5	173	63	S. 930x120	S. 1030x120D	4	3.7x6.3	.....	3	4	Int.	L	S.G.	Th	Pr
Renault	7½	188	67	S. 970x180	S. 1000x130T	4	4.8x6.3	.....	3	2	Int.	L	S.G.	Th	Pr
Rochet-Schneider	½	134	58	P. 880x120	P. 880x120D	4	3.1x5.1	.....	3	4	Int.	L	S.G.	Th	Pr
Rochet-Schneider	2½	164	63	P. 955x155	P. 955x155D	4	3.7x5.5	3	.....	4	Int.	L	S.G.	Th	Pr
Saurer	3	163	63	P. 935x155	P. 935x155D	4	3.9x6.7	3	.....	4	Int.	L	S.G.	Pu	Pr
Saurer	5	177	63	S. 1030x160	S. 1030x160D	4	4.3x7	3	.....	4	Int.	L	S.G.	Pu	Pr
Saurer	7½	187	63	S. 1030x160	S. 1030x200D	4	4.3x7	3	.....	4	Int.	L	S.G.	Pu	Pr
S.O.M.U.A	3	165	75	P. 955x155	P. 955x155D	4	3.7x5.9	.....	4	4	Iut.	L	S.G.	Pu	Pr
S.O.M.U.A	5	152	82	S. 900x140	S. 950x150D	4	4.3x5.9	.....	3	1	Int.	L	S.G.	Pu	Pr
S.O.M.U.A	7½	171	86	S. 1030x180	S. 1030x160T	4	4.3x5.9	.....	3	1	Int.	L	S.G.	Pu	Pr
Unic	1½	124	55	P. 820x120	P. 820x120D	4	3.1x5.1	.....	4	4	Int.	L	Ch.	Pu	Pr
Unic	2	139	60	P. 895x135	P. 895x135D	4	3.1x5.1	.....	4	4	Int.	L	Ch.	Pu	Pr
ITALIAN															
Fiat	1	110	55	P. 815x105	P. 815x105D	4	2.7x4	3	.....	4	Int.	L	S.G.	Pu	Pr
Fiat	1½	146	55	P. 880x120	P. 880x120D	4	3.9x5.5	3	.....	4	Int.	L	S.G.	Pu	Pr
Fiat	3½	142	63	S. 900x110	P. 1060x120D	4	3.9x7.08	4	.....	4	Int.	L	S.G.	Pu	Pr
S.P.A	3	145	66	S. 820x100	S. 950x100D	4	3.7x7.8	4	.....	4	Int.	L	S.G.	Pu	Pr
SWISS															
Berna	3	173	63	S. 720x140	S. 1030x160D	4	4.4x6.2	3	.....	2	Int.	L	S.G.	Pu	Pr
BELGIAN															
Pipe	2	130	56	P. 835x135	P. 835x135D	4	3.1x5.9	4	.....	4	Int.	L	Ch.	Th	Pr

ABBREVIATIONS:
(b) Front wheel drive
(c) Twenty tons on trailers
(d) Four wheel drive
(e) Also supplied with pneumatic tires 1085 x 185

TIRES:
S—Solid
P—Pneumatic
D—Dual

CYLINDER HEAD:
Det—Detachable
Int—Integral

VALVE ARRANGEMENT:
L—At Side
I—In Head
F—In Head and Side
S—Sleeve Type
T—At Each Side

CAMSHAFT DRIVE:
Ch—Chain
H. G.—Helical Gears
S. G.—Spur Gear
S. B.—Spiral Bevel Gears
Ec—Eccentric Rods
B. V.—Straight Bevel Gears
Wm—Worm Gears
C. B.—Chain & Bevel Gear

COOLING:
Pu—Pump
Th—Thermo Siphon

LUBRICATION:
Sp—Slash
Pr—Pressure in most cases to all crankshaft bearings
Ps—Pressure to main bearings, splash to other parts
Fp—Pressure to all bearings
M—Murray Mechanical Lubricator

FUEL FEED:
Pr—Pressure
Gr—Gravity
Va—Vacuum

GOVERNOR:
Cent—Centrifugal

IGNITION TYPE:
M—Magneto
B—Battery
M. B.—Magneto and Battery

CLUTCH:
S. P.—Single Dry Plate
M. D.—Multiple Dry Disk
M. O.—Multiple Disk in Oil
Co—Cone
Ma—Magnetic Transmission
Fr—Friction Transmission

GEARSET:
S. G.—Sliding Gear
U. E.—Unit with Engine
S. U.—Separate Unit
U. A.—Unit with Axle
U. T.—Unit with Torque Tube

Chassis Specifications

ENGINE				TRANSMISSION								RUNNING GEAR						MAKE
FUEL SYSTEM					GEARSET				REAR AXLE			BRAKES		STEERING GEAR				
Carbureter Made	Fuel Feed	Governor Type	Ignition System Type	Clutch	Type	Location	No. of Forward Speeds	Universals Type	Propulsion Taken by	Torque Taken By	Final Drive	Foot, Location	Hand, Location	Type	Drive Location	Wheels Type	Frame Material	
								FRENCH										
....	Gr	Own	M	Disks	S.G	S.U	4	M	Sp	R.R	Ch	P	R.W	S.N	R	C.S	P.S	Aries
....	Gr	Own	M	Disks	S.G	S.U	4	M	Sp	R.R	Ch	P	R.W	S.N	R	C.S	P.S	Aries
Berliet	Gr	None	M	Disks	S.G	U.E	3	M	Sp	Sp	W	R.W	R.W	W.S	R	D	P.S	Berliet
Berliet	Va	Cent	M	Disks	S.G	S.U	4	M	Sp	T.T	D.R	P	R.W	W.S	R	D	P.S	Berliet
Berliet	Pr	Cent	M	Disks	S.G	S.U	4	M	Sp	Sp	W	P	R.W	W.S	R	D	P.S	Berliet
Berliet	Gr	Cent	M	Disks	S.G	S.U	4	M	R.R	R R	Ch	P	R.W	W.S	R	C.S	P.S	Berliet
Berliet	Gr	Cent	M	Disks	S.G	S.U	4	M	Sp	Sp	Plan	P	R.W	W.S	R	C.S	P.S	Berliet
Own	Va	None	M	Cone	S.G	S.U	4	L.M	Sp	Sp	B.V	P	R.W	W.S	L	D	P.S	Delahaye
Own	Gr	None	M	Cone	S.G	S.U	4	L.M	Sp	Sp	B.V	P	R.W	W.S	L	D	P.S	Delahaye
Own	Gr	Cent	M	Cone	S.G	S.U	4	M	Sp	Sp	Ch	P	R.W	W.S	L	Wd	P.S	Delahaye
Own	Gr	Cent	M	Disks	S.G	S.U	4	M	R.R	R R	Ch	P	R.W	W.S	R	Wd	P.S	Delaunay-Belleville
Own	Gr	Cent	M	Disks	S.G	S.U	4	M	R.R	R.R	Ch	P	R.W	W.S	R	Wd	P.S	Delaunay-Belleville
Own	Gr	Cent	M	Disks	S.G	S.U	4	M	R.R	R R	Ch	P	R.W	W.S	R	Wd	P.S	Delaunay-Belleville
Zenith	Gr	Cent	M	Cone	S.G	S.U	4	M	R.R	Sp	Ch	P	R.W	W.S	R	Wd	P.S	Dewald
Zenith	Gr	Cent	M	Cone	S.G	S.U	4	M	R.R	Sp	Ch	P	R.W	W.S	R	Wd	P.S	Dewald
Solex	Gr	Cent	M	Plate	S.G	S.U	4	M	Sp	Sp	I.G	P	R.W	W.S	R	D	P.S	De Dion Bouton
Zenith	Gr	Cent	M	Plate	S.G	S.U	4	M	Sp	Sp	I.G	P	R.W	W.S	R	C.S	P.S	De Dion Bouton
Solex	Gr	Cent	M	Plate	S.G	U.E	4	M	Sp	Sp	I.G	P	R.W	W.S	L	D	P.S	Latil
Solex	Gr	Cent	M	Cone	S.G	U.E	4	M	Sp	Sp	I.G	P	R.W	W.S	L	D	P.S	Latil
Solex	Gr	Cent	M	Cone	S.G	U.E	4	M	Sp	Sp	I.G	P	R.W	W.S	R	C.S	P.S	Latil
Solex	Gr	Cent	M	Plate	S.G	U.E	5	M	Sp	Sp	I.G	P	FWRW	S.N	R	C.S	P.S	Latil
Solex	Gr	Cent	M	Cone	S.G	U.E	5	M	Sp	Sp	I.G	F.W.P.	R.W	S.N	R	C.S	P.S	Latil
Own	Va	None	M	Cone	S.G	U.E	4	M	T.T	T.T	B.V	R.W	R.W	S.N	R	Opt	P.S	Panhard-Levassor
Own	Va	None	M	Plate	S.G	U.E	4	R	T.T	T.T	B.V	R.W	R.W	S.N	R	Opt	P.S	Panhard-Levassor
Own	Gr	None	M	Plate	S.G	U.E	4	M	T.T	T.T	B.V	R.W	R.W	S.N	R	D	P.S	Panhard-Levassor
Own	Gr	None	M	Plate	S.G	U.E	4	M	T.T	T.T	B.V	R.W	R.W	S.N	R	D	P.S	Panhard-Levassor
Own	Gr	None	M	Plate	S.G	U.E	4	M	T.T	T.T	B.V	R.W	R.W	S.N	R	D	P.S	Panhard-Levassor
Zenith	Gr	Cent	M	Cone	S.G	S.U	4	M	Sp	Sp	W	R.W	P	S.N	R	C.S	P.S	Peugeot
Renault	Gr	None	M	Cone	S.G	S.U	3	M	T.T	T.T	S.B	R.W	R.W	W.S	L	D	P.S	Renault
Renault	Gr	None	M	Cone	S.G	S.U	3	M	T.T	T.T	S.B	R.W	R.W	W.S	L	D	P.S	Renault
Renault	Gr	None	M	Cone	S.G	S.U	4	M	T.T	T.T	B.V	P	R.W	W.S	R	D	P.S	Renault
Renault	Gr	Cent	M	Cone	S.G	S.U	4	M	T.T	T.T	B.V	P	R.W	W.S	R	D	P.S	Renault
Renault	Gr	Cent	M	Cone	S.G	S.U	4	M	T.T	T.T	B.V	P	R.W	W.S	R	D	P.S	Renault
Renault	Gr	Cent	M	Cone	S.G	S.U	4	....	T.T	T.T	D.R	P	R.W	W.S	R	C.S	P.S	Renault
Renault	Gr	Cent	M	Cone	S.G	S.U	4	....	T.T	T.T	D.R	P	R.W	W.S	R	C.S	P.S	Renault
Renault	Gr	Cent	M	Cone	S.G	S.U	4	....	Sp	T.T	D.R	P	R.W	W.S	R	C.S	P.S	Renault
Zenith	Gr	Cent	M	Cone	S.G	U.E	4	M	Sp	T.T	D.R	P	R.W	W.S	R	D	P.S	Rochet-Schneider
Zenith	Gr	Cent	M	Cone	S.G	U.E	4	M	Sp	T.T	D.R	P	R.W	W.S	R	D	P.S	Rochet-Schneider
Saurer	Gr	Cent	M	Cone	S.G	U.E	4	M	Sp	Sp	B.V	R.W	R.W	W.S	R	Wd	P.S	Saurer
Saurer	Gr	Cent	M	Cone	S.G	U.E	4	M	Sp	Sp	B.V	R.W	R.W	W.S	R	Wd	P.S	Saurer
Saurer	Gr	Cent	M	Cone	S.G	U.E	4	M	Sp	Sp	B.V	R.W	R.W	W.S	R	Wd	P.S	Saurer
Solex	Gr	Cent	M	Plate	S.G	U.E	4	M	Sp	Sp	D.R	F.W.P	R.W	W.S	R	D	P.S	S.O.M.U.A.
Solex	Gr	Cent	M	Disks	S.G	S.U	3	M	Sp	Sp	I.G	P	R.W	W.S	R	C.S	P.S	S.O.M.U.A.
Solex	Gr	Cent	M	Disks	S.G	S.U	4	M	Sp	Sp	I.G	P	R.W	W.S	R	C.S	P.S	S.O.M.U.A.
Viel	Gr	Ball	M	Cone	S.G	S.U	4	M	Sp	Sp	B.V	P	R W	W.S	R	D	P.S	Unic
Viel	Gr	Ball	M	Cone	S.G	S.U	4	M	Sp	Sp	I.G	P	R.W	W.S	R	D	P.S	Unic
								ITALIAN										
Fiat	Gr	....	M	Disks	S.G	U.E	4	M	Fr	Fr	S.B	P	R.W	W.W	R	D	P.S	Fiat
Fiat	Pr	....	M	Disks	S.G	U.E	4	M	Fr	Fr	B.V	P	R.W	W.W	R	D	P.S	Fiat
Fiat	Pr	Cent	M	Disks	S.G	S.U	4	M	R.R	R.R	Ch	P	R.W	W.W	R	C.S	P.S	Fiat
S.P.A	Gr	None	M	Disks	S.G	S.U	4	M	Sp	R.R	Ch	P	R.W	W.S	R	C.S	P.S	S.P.A.
								SWISS										
Claudel	Gr	Cent	M	Cone	S.G	S.U	4	M	T.T	T.T	I.G	P	R.W	W.S	R	C.S	P.S	Berna
								BELGIAN										
Zenith	Va	None	M	Cone	S.G	S.U	4	M	T.T	T.T	B.V	P	R.W	S.N	R	D	P.S	Pipe

UNIVERSAL JOINTS:
F—Fabric
M—Metal
F. M.—Fabric and Metal
L—Leather

DRIVE AND TORQUE TAKEN BY:
T. T.—Torque Tube
Sp—Springs
R. R.—Radius Rods
T. A.—Torque Arm
Fr—Fork

FINAL DRIVE:
S. B.—Spiral Bevel
W—Worm
B. V.—Straight Bevel
Ch—Chain
B. S.—Bevel and Spur (double reduction)
I. G.—Internal Gear
Pl—Planetary

SPRINGS:

All European trucks listed have semi elliptic springs front and rear with exception of Renault ¼ and ¾ ton models which have transverse rear springs.

BRAKES:
I—Internal
E—External
R. W.—Rear Wheels
F. W.—Front Wheels
P—Propeller shaft

STEERING GEAR:
S. N.—Screw and Nut
W. W.—Worm and Wheel
W. S.—Worm and Sector
W—Worm and Wheel or Worm and Sector

DRIVE:
R—Right **L**—Left

LOCATION DRIVER'S SEAT:
S. E.—Side of Engine
R. E.—Rear of Engine
O. E.—Over Engine

WHEELS:
C. S.—Cast Steel
Wd—Wood
D—Disk
H. S.—Hollow Pressed Steel Spoked
A. D.—Aluminum Disk
St—Steel

FRAME:
F. P.—Flitch Plate
P. S.—Pressed Steel
R. S.—Rolled Steel

Continental Gasoline Truck

MAKE AND MODEL	GENERAL						ENGINE											
				TIRES						CYLINDERS						FUEL SYSTEM		
	Tons Capacity	Wheelbase (ins.)	Chassis Weight (lbs.)	Standard Type	Front Size (mm.)	Rear Size (mm.)	Number of Cylinders Bore and Stroke (ins.)	Piston Displacement (ins.)	Brake H.P.	Head	Cylinder Type Valve Arrangement	Number per Casting	Camshaft Drive	Cooling	Oiling System	Carburetor Make	Fuel Feed	Governor Type
							GERMAN											
Adler.....L3D	3.3	161	6610	S	930x120	1010x120D	4-4⅝x6½	362	45	Int	L	2	SG	Pu	Pr	Pallas	Pr	Cent
Adler.....L5A	5.5	177	7716	S	930x140	1030x140D	4-4⅝x6½	362	45	Int	L	2	SG	Pu	Pr	Pallas	Pr	Cent
Adler.....L2/12L	2.2	142	3306	S	920x100	920x110D	4-3⅜x5⅝	188	30	Int	L	2	SG	Pu	Pr	Pallas	Va	Cent
Benz.....1CN	1.65	148	3800	P	925x150	1075x225	4-3⅝x5⅝	288	35	Int	L	4	SG	Pu	Pr	Zenith	Pr	Cent
Benz.....2CN	2.75	158	5100	P	975x175	1150x250	4-4⅝x6½	362	40	Int	L	2	SG	Pu	Pr	Zenith	Pr	Cent
Benz.....3CN	3.85	166	5952	S	930x120	930x140D	4-4⅝x6½	362	40	Int	L	2	SG	Pu	Pr	Zenith	Pr	Cent
Benz.....5K3	4.4-5.5	168	7054	S	930x140	970x160D	4-4¾x7⅛	496	50	Int	L	2	SG	Pu	Pr	Zenith	Pr	Cent
Bergmann.....3½	3.85	162	5070	S	.....	.....	4-4⅝x5⅝	348	38	Int	L	2	SG	Pu	Pr	Favorit	Gr	Cent
Buessing.....IIA	20P	174	5290	P	975x175	1150x250	4-4⅝x5⅝	348	45	Det	L	2	SG	Pu	Pr	Own	Va	Cent
Buessing.....IIIA	30P	174	.....	S	930x120	1030x140D	4-4⅝x5⅝	348	45	Det	I	2	SG	Pu	Pr	Own	Va	Cent
Buessing.....IVB	4.4	...	.....	S	.....	.....	4-4⅝x6⅝	432	58	Det	I	2	HG	Pu	Pr	Own	Va	Cent
Buessing.....VB	5.5	...	.....	S	.....	.....	4-4⅝x6⅝	432	58	Det	I	2	HG	Pu	Pr	Own	Va	Cent
Daag.....EC¾	3.3-4.4	163	6834	S	930x120	1030x140D	4-4⅝x6⅝	372	45	Int	L	2	SG	Pu	Pr	Pallas	Pr	Cent
Daag.....EK⅘	4.4-5.5	180	7495	S	330x140	1050x160D	4-4⅝x6⅝	432	50	Int	L	2	SG	Pu	Pr	Pallas	Va	Cent
Daag.....AC2	2.2	152	4200	P	34x5″	40x8″	4-4⅝x6⅝	372	48	Det	I	4	HG	Pu	Pr	Pallas	Va	Cent
Daimler.....DC2	2.2	152	5070	S	930x120	930x120D	4-4⅝x5⅝	348	40	Int	I	2	BV	Pu	Pr	Own	Pr	Cent
Daimler.....DC3	3.85	158	6450	S	930x120	930x140D	4-4¼x5⅝	340	38	Int	I	2	HG	Pu	Pr	Own	Pr	Cent
Daimler.....DR 4-5	4.95	174	8050	S	930x140	1030x140D	4-4¾x6⅝	476	45	Int	I	2	HG	Pu	Pr	Own	Pr	Cent
Dinos.....2t-22	2.2	145	4630	P	34x5″	40x8″	4-3⅝x5⅝	252	35	Int	F	2	CH	Pu	Pr	Pallas	Pr	Cent
Dixi.....2t	2.2	150	5070	S	930x120	930x120D	4-3¾x6½	282	35	Int	L	2	SG	Pu	Pr	Opt	Pr	Cent
Dixi.....3t	3.3	158	6200	S	930x120	1030x140D	4-4⅝x6½	362	45	Int	L	2	SG	Pu	Pr	Opt	Pr	Cent
Dixi.....4t	4.4-5.5	171	6613	S	830x120	1030x140D	4-4¾x7¼	496	55	Int	L	2	SG	Pu	Pr	Opt	Gr	Cent
Duerkopp.....L¾	0.83	128	2425	P	820x125	820x125	4-3⅝x3⅝	159	30	Int	L	4	HG	Th	Pr	Opt	Va	Cent
Duerkopp.....L1.5	1.65	141	3747	S	860x100	860x100D	4-3⅝x5¼	202	28	Int	L	4	HG	Pu	Pr	Opt	Va	Cent
Duerkopp.....L3	3.3	165	7716	S	930x120	1030x140D	4-4⅝x5⅛	337	45	Int	L	4	HG	Pu	Pr	Opt	Va	Cent
Duerkopp.....L⅘	4.4-5.5	175	8818	S	930x140	1040x160D	4-5⅛x6⅝	520	55	Int	L	2	HG	Pu	Pr	Opt	Va	Cent
Elite-Wagen.....ALZ5	5.5	170	7050	S	930x140	1030x140D	4-5⅛x5⅝	480	55	Int	F	2	HG	Pu	Pr	Pallas	Pr	Cent
Elite-Wagen.....BLIV	2.75	152	5510	S	870x110	870x110D	4-4⅝x5⅝	348	45	Int	L	2	SG	Pu	Pr	Pallas	Pr	Cent
Elite-Wagen.....Ca 1.5	1.65	138	4188	S	870x100	870x100D	4-3⅝x5½	268	35	Int	L	2	SG	Pu	Pr	Pallas	Pr	Cent
Faun.....B	2.2	155	.....	S	920x110	920x110D	4-4⅝x5⅝	386	42	Int	L	4	SG	Pu	Pr	Pallas	Va	Cent
Faun.....S	3.85	161	.....	S	930x120	930x120D	4-4⅝x5⅝	386	42	Int	L	4	SG	Pu	Pr	Pallas	Va	Cent
F.M.A.....LIA	5.5	161	10000	S	820x120	1040x140D	4-5⅛x5⅝	488	50	Int	T	2	HG	Pu	Pr	Pallas	Pr	Cent
Hansa-Lloyd.....L 1.5	1.65	138	4400	S	870x100	870x100D	4-3⅝x5½	218	30	Int	L	4	HG	Th	Pr	Pallas	Gr	Cent
Hercules.....B	2.2	142	3600	S	870x90	870x90D	4-3¼x4⅞	154	20	Det	L	4	HG	Pu	Pr	Pallas	Gr	Cent
Hercules.....G	3.3	158	5730	S	920x110	920x110D	4-4⅝x5⅝	348	36	Det	L	2	HG	Pu	Pr	Solex	Gr	Cent
Hercules.....E	5.5	162	7716	S	1010x120	1010x120D	4-4⅝x5⅝	380	42	Det	L	2	CH	Pu	Pr	Solex	Gr	Cent
Hille.....L3	3.85	158	6393	S	930x120	1030x140D	4-4¾x5⅝	336	35	Int	F	2	CH	Pu	Pr	Meco	Pr	Cent
Hille.....L5	4.95	174	7054	S	930x140	1030x160D	4-5½x6⅛	496	50	Int	F	2	HG	Pu	Pr	Meco	Pr	Cent
Hille.....K5	3.3	160	6900	S	930x120	1030x140D	4-4½x6⅛	360	45	Det	L	4	CH	Pu	Pr	Meco	Pr	Cent
Horch.....1T	1.1	136	2425	P	935x135	935x135	4-3½x5⅛	160	30	Int	L	4	CH	Pu	Pr	Solex	Va	Cent
Horch.....3T	3.3	163	6172	S	930x120	1010x120D	4-4⅝x6⅛	392	42	Int	L	4	SG	Pu	Pr	Zenith	Va	Cent
Komnick.....5L	5.5	174	.....	S	930x140	1050x160D	4-4¾x6⅝	430	45	Int	L	2	HG	Pu	Pr	Pallas	Gr	Cent
Komnick.....3W	3.3	166	.....	S	930x120	1030x140D	4-4⅝x6¼	356	38	Det	L	4	HG	Pu	Pr	Schlee	Va	Cent
Krupp.....L5	5.2	173	7495	S	930x140	970x160D	4-4¾x6⅝	476	50	Int	L	2	HG	Pu	Pr	Pallas	Pr	Cent
Lippische Werke.....3T	3.3	122	4300	S	880x140	880x140	4-2⅝x5½	154	30	Det	L	4	SG	Pu	Pr	Graetzin	Gr	Cent
Magirus.....1.5T	1.65	132	3600	P	880x135	880x135	4-3⅜x5½	180	25	Int	L	4	SG	Pu	Pr	Pallas	Va	Cent
Magirus.....2.5T	2.75	138	4850	S	920x100	930x120D	4-3¾x5⅝	260	34	Int	L	4	SG	Pu	Pr	Pallas	Va	Cent
Magirus.....3.5T	3.85	158	6172	S	930x120	1010x120D	4-4⅝x6⅝	372	40	Int	L	2	SG	Pu	Pr	Pallas	Va	Cent
Magirus.....Fire Br	3.85	158	6613	S	930x140	930x140D	4-5⅝x7¼	624	70	Int	L	2	SG	Pu	Pr	Pallas	Va	Cent
M.A.N.....2½T	2.75	152	4700	S	920x100	930x120D	4-4⅞x6⅝	284	40	Int	T	2	SG	Pu	Pr	Pallas	Va	Cent
M.A.N.....Bus	26P	152	4700	P	36x6″	40x8″	4-4⅞x6⅝	284	40	Int	T	2	SG	Pu	Pr	Pallas	Va	Cent
M.A.N.....3T	3.85	166	5600	S	930x120	1030x140D	4-4¾x7⅛	496	50	Int	T	2	SG	Pu	Pr	Pallas	Va	Cent
M.A.N.....4-5T	4.4-5.5	185	6650	S	830x120	1030x140D	4-4¾x7⅛	496	50	Int	T	2	SG	Pu	Pr	Pallas	Va	Cent
Mannesman-Mulag...57Z	3.85	154	6834	S	930x120	1010x120D	4-4⅝x5½	419	44	Int	T	2	SG	Pu	Pr	Zenith	Gr	Cent
Mannesman-Mulag...56C	4.4-5.5	167	7800	S	930x140D	1050x160D	4-5⅛x5⅝	488	52	Int	T	2	SG	Pu	Pr	Zenith	Gr	Cent
Mannesman-Mulag....LC	3.3-3.85	160	7300	S	930x120	1030x140D	4-4⅝x5⅝	448	50	Int	T	2	SG	Pu	Pr	Zenith	Gr	Cent
Nacke.....2	2.2	150	4400	S	920x100	920x100D	4-3⅝x5⅝	234	32	Int	F	2	SG	Pu	Pr	Pallas	Pr	Cent
Nacke.....3	3.3	158	6600	S	930x120	1010x120D	4-4¼x6⅝	356	38	Int	F	2	SG	Pu	Pr	Pallas	Pr	Cent
Nacke.....5	5.5	170	7275	S	930x120	1030x140D	4-4¾x6⅝	476	46	Int	F	2	SG	Pu	Pr	Pallas	Pr	Cent
NAG.....KL8	3.3	166	6613	S	930x120	1030x140D	4-4¾x6⅝	468	45	Int	I	2	SG	Pu	Pr	Pallas	Pr	Cent
NAG.....K48	3.85-4.4	180	7275	S	930x120	1030x140D	4-4¾x6⅝	468	45	Int	I	2	SG	Pu	Pr	Pallas	Ps	Cent
NAG.....L8	4.4-5.5	177	7600	S	930x140	1050x160D	4-4¾x6⅝	468	45	Int	I	2	SG	Pu	Pr	Pallas	Pr	Cent
NAG.....L8C	4.4-5.5	177	7600	S	930x140	1050x160D	4-4¾x6⅝	468	45	Int	I	2	SG	Pu	Pr	Pallas	Pr	Cent
NSU.....2.5	2.75	126	4000	S	860x90	930x120D	4-3½x5⅛	224	40	Int	L	2	SG	Th	Pr	Zenith	Pr	Cent
Opel.....4T	4.4	168	.....	S	930x120	1050x140D	4-4½x5⅝	380	40	Int	L	2	HG	Pu	Pr	Own	Pr	Cent
Vomag.....P20t	2.2-2.75	152	5291	S	930x120	930x120D	4-4⅝x6⅜	372	40	Int	L	2	SG	Pu	Pr	Zenith	Pr	Cent
Vomag.....P30z	3.3-3.85	159	5952	S	930x120	1030x140D	4-4⅝x6⅝	372	40	Int	L	2	SG	Pu	Pr	Zenith	Pr	Cent
Vomag.....P4t7K	3.3-3.85	165	6393	S	920x120	1030x140D	4-4⅝x6⅝	372	40	Int	L	2	SG	Pu	Pr	Pallas	Pr	Cent
Vomag.....P45fz	4.4-5.5	178	6613	S	930x140	1030x140D	4-4⅝x6⅝	416	45	Int	L	2	SG	Pu	Pr	Pallas	Pr	Cent
Vomag.....P45ro	4.4-5.5	178	6613	S	930x140	1030x140D	4-4⅝x6⅝	416	45	Int	L	2	SG	Pu	Pr	Pallas	Pr	Cent

(1) Four wheel drive with transverse sheets.

ABBREVIATIONS:
(b) Front wheel drive
(c) Twenty tons on trailers
(d) Four wheel drive
(e) Also supplied with pneumatic tires 1085 x 185

TIRES:
S—Solid
P—Pneumatic
D—Dual

CYLINDER HEAD:
Det—Detachable
Int—Integral

VALVE ARRANGEMENT:
L—At Side
I—In Head
F—In Head and Side
S—Sleeve Type
T—At Each Side

CAMSHAFT DRIVE:
Ch—Chain
H. G.—Helical Gears
S. G.—Spur Gear
S. B.—Spiral Bevel Gears
Ec—Eccentric Rods
B. V.—Straight Bevel Gears
Wm—Worm Gears
C. B.—Chain & Bevel Gear

COOLING:
Pu—Pump
Th—Thermo Siphon

LUBRICATION:
Sp—Splash
Pr—Pressure in most cases to all crankshaft bearings
Ps—Pressure to main bearings, splash to other parts
Fp—Pressure to all bearings
M—Murray Mechanical Lubricator

FUEL FEED:
Pr—Pressure
Gr—Gravity
Va—Vacuum

GOVERNOR:
Cent—Centrifugal

IGNITION TYPE:
M—Magneto
B—Battery
M. B.—Magneto and Battery

CLUTCH:
S. P.—Single Dry Plate
M. D.—Multiple Dry Disk
M. O.—Multiple Disk in Oil
Co—Cone
Ma—Magnetic Transmission
Fr—Friction Transmission

GEARSET:
S. G.—Sliding Gear
U. E.—Unit with Engine
S. U.—Separate Unit
U. A.—Unit with Axle
U. T.—Unt with Torque Tube

Chassis Specifications (Continued)

MAX. GOV. SPEEDS		ELECTRICAL SYSTEM				TRANSMISSION							RUNNING GEAR						MAKE AND MODEL
													BRAKES		STEERING GEAR				
In R.P.M. of Engine	In M.P.H. of Truck	Ignition System Make	Generator Make	Voltage	Equipped with Starter?	Clutch Type	Gearset Location	Number of Forward Speeds	Universals Number and Type	Propulsion Taken By	Torque Taken By	Final Drive	Foot Type and Location	Hand Type and Location	Type	Drive Location	Wheels Type	Frame Material	
													GERMAN						
1200	18.6	Bosch			No	Co	UE	4	1-M	TT	TT	BS	EP	IRW	S&N	R	CS	RS	Adler L3D
1200	11.2	Bosch			No	Co	UE	4		RR		Ch	EP	IRW	S&N	R	CS	RS	Adler L5A
1200	21.7	Bosch	Bosch	12	Yes	Co	SU	4	1-F	TT	TT	Bv	EP	IRW	S&N	R	CS	RS	Adler L2/12L
1200	24.8	Bosch			No	Ds	SU	4	1-M	Sp	TT	Bv	EP	IRW	W	R	W	RS	Benz 1CN
1000	18.6	Bosch	Bosch	12	Yes	Ds	SU	4	1-M	RR	TT	BS	EP	IRW	W	R	CS	RS	Benz 2CN
1000	15.5	Bosch	Bosch	12	Yes	Ds	SU	4	1-M	RR	TT	BS	EP	IRW	W	R	CS	RS	Benz 3CN
1000	12.4	Bosch	Bosch	12	Yes	Ds	SU	4		RR		Ch	EP	IRW	W	R	CS	RS	Benz 5K3
1150	16.7	Bosch			No	Co	SU	4	2-M	RR	TA	BS	EP	IRW	W	R	CS	RS	Bergmann 3½
1000	22.8	Bosch	Bosch	12	Yes	Co	SU	4	1-F	TT	TT	BS	IP	ERW	W	L	AD	RS	Buessing IIA
860	9.8	Bosch	Opt			Co	SU	4	1-F	TT	TT	BS	IP	ERW	W	L	CS	RS	Buessing IIIA
		Mea	Opt			Co	SU	4	1-F	TT	TT	BS	IP	ERW	W	R	CS	RS	Buessing IVB
		Mea	Opt			Co	SU	4		RR		Ch	IP	ERW	W	R	CS	RS	Buessing VB
1000	18.6	Eisem	Eisem	12	Yes	Co	SU	4	1-M	TT	TT	BS	EP	IRW	S&N	R	CS	RS	Daag EC3¼
1000	11.2	Eisem	Eisem	12	Yes	Co	SU	4		RR		Ch	EP	IRW	S&N	R	CS	RS	Daag EK5½
1200	27.9	Eisem	Eisem	12	Yes	Co	SU	4	1-M	TT	TT	Bv	IRW	IRW	S&N	R	AD	RS	Daag AC2
1000	17.4	Bosch	Bosch	12	Yes	Co	SU	4	2-M	RR	TA	Bv	EP	IRW	S&N	R	CS	RS	Daimler DC2
1000	17.0	Bosch	Bosch	12	Yes	Co	SU	4	2-M	RR	TA	Bv	EP	IRW	S&N	R	CS	RS	Daimler DC3
650	9.9	Bosch	Bosch	12	Yes	Co	SU	4		RR	TA	IG	EP	IRW	S&N	R	CS	RS	Daimler DR 4-5
1300	24.8	Bosch	Bosch	12	Yes	Co	SU	4	1-M	RR	TT	Bv	EP	IRW	W	R	W	RS	Dinos 2t-22
1150	18.6	Opt	Opt			Co	SU	4	1-M	RR	TT	BS	EP	IRW	S&N	R	CS	RS	Dixi 2t
1150	18.6	Opt	Opt			Co	SU	4	1-M	RR	TT	BS	EP	IRW	S&N	R	CS	RS	Dixi 3t
950	11.2	Opt			No	Co	SU	4		RR		Ch	EP	IRW	S&N	R	CS	RS	Dixi 4t
1800	27.9	Opt	Opt			Co	SU	4	1-M	TT	TT	SB	EP	IRW	W	R	W	RS	Duerkopp L3¼
1400	21.7	Opt	Opt			Co	SU	4	1-M	TT	TT	BS	EP	IRW	W	R	CS	RS	Duerkopp L1.5
1000	18.6	Opt	Opt			Co	SU	4	1-M	TT	TT	BS	EP	IRW	W	R	CS	RS	Duerkopp L3
900	12.4	Opt	Opt			Co	SU	4	1-M	TT	TT	BS	EP	IRW	W	R	CS	RS	Duerkopp L½
900	11.2	Bosch			No	Co	SU	4		RR		Ch	EP	IRW	W	R	CS	RS	Elite-Wagen ALZ5
1100	18.6	Bosch			No	Co	SU	4	1-M	RR	TA	BS	EP	IRW	W	R	W	RS	Elite-Wagen BLIV
1100	24.8	Bosch	Bosch	12	Yes	Co	SU	4	1-M	TT	TT	BS	EP	IRW	W	R	W	RS	Elite-Wagen Ca 1.5
1000	19.6	Bosch	Bosch	12	Yes	Ds	SU	4	1-M	TT	TT	W	EP	IRW	S&N	R	D	RS	Faun B
1600	15.5	Bosch	Bosch	12	Yes	Ds	SU	4	2-M	Sp	Sp	W	EP	IRW	W	R	CS	RS	Faun S
900	18.6	Bosch	Bosch	12	Yes	Co	SU	4		RR		Ch	EP	IRW	W	R	CS	RS	F.M.A. LIA
1200	18.6	Bosch	Bosch	12	Yes	Ds	SU	4	1-M	TT	TT	W	EP	IRW	S&N	L	CS	RS	Hansa-Lloyd L 1.5
1100	15.5	Bosch			No	Co	SU	3	2-M	Sp	TA	Bv	ERW	IRW	W	R	CS	RS	Hercules B
1000	18.6	Bosch			No	Co	SU	4	1-M	TT	TT	Bv	ERW	IRW	W	R	CS	RS	Hercules G
900	11.2	Bosch			No	Co	SU	4		RR		Ch	ERW	IRW	W	R	CS	RS	Hercules E
1000	12.4	Bosch			No	Co	SU	4		RR		Ch	EP	IRW	W	R	CS	RS	Hille L3
900	11.2	Bosch			No	Co	SU	4		RR		Ch	EP	IRW	S&N	R	CS	RS	Hille L5
1000	18.6	Bosch			No	Co	SU	4	1-M	TT	TT	BS	EP	IRW	S&N	R	CS	RS	Hille K5
1800	28.5	Bosch	Bosch	12	Yes	Co	SU	4	1-M	TA	TT	SP	IP	IRW	S&N	R	St	RS	Horch 1T
1000	18.6	Bosch	Bosch	12	Yes	Co	SU	4	1-M	TA	TT	BS	IP	IRW	S&N	R	CS	RS	Horch 3T
1000	12.3	Bosch			No	Co	SU	4		RR		Ch	EP	IRW	S&N	R	CS	RS	Komnick 5L
1000	18.6	Bosch	Bosch	12	Yes	Co	SU	4	1-M	TT	TT	BS	EP	IRW	S&N	R	CS	RS	Komnick 3W
1000	12.4	Bosch	Bosch	12	Yes	Co	SU	4		RR		Ch	EP	IRW	S&N	R	D	RS	Krupp L5
2000	13.7	Bosch	Bosch	12	Yes		UE	3				(1)	EP	IRW	W	R	CS	RS	Lippische Werke 3T
1300	24.8	Bosch	Bosch	12	Yes	Ds	SU	4	1-M	Sp	TT	Bv	EP	IRW	S&N	R	D	RS	Magirus 1.5T
1250	18.6	Bosch	Bosch	12	Yes	Ds	SU	4	1-M	Sp	TT	BS	EP	IRW	S&N	R	CS	RS	Magirus 2.5T
1100	16.1	Bosch	Bosch	12	Yes	Ds	SU	4	1-M	TT	TT	BS	EP	IRW	S&N	R	CS	RS	Magirus 3.5T
1100	24.8	Bosch	Bosch	12	Yes	Ds	SU	4	1-M	TT	TT	BS	EP	IRW	S&N	R	CS	RS	Magirus Fire Br
1000	18.6	Eisem	Bosch	12	Yes	Co	UE	4	1-M	TT	TT	Bv	EP	IRW	W	R	W	RS	M.A.N. 2½T
1000	36.2	Eisem	Bosch	12	Yes	Co	UE	4	1-M	TT	TT	Bv	EP	IRW	W	R	CS	RS	M.A.N. Bus
1000	16.1	Bosch	Bosch	12	Yes	Co	UE	4	1-M	TT	TT	Bv	EP	IRW	W	R	W	RS	M.A.N. 3T
1000	11.8	Bosch	Bosch	12	Yes	Co	SU	4		RR		Ch	EP	IRW	W	R	W	RS	M.A.N. 4-5T
900	18.6	Bosch	Bosch	12	Yes	Co	SU	4		RR		Ch	IP	IRW	W	R	CS	RS	Mannesman-Mulag 57Z
900	12.5	Bosch	Bosch	12	Yes	Co	SU	4		RR		Ch	IP	IRW	W	R	CS	RS	Mannesman-Mulag 56C
900	18.6	Bosch	Bosch	12	Yes	Co	UE	4	1-M	Sp	TA	BS	EP	IRW	W	R	D	RS	Mannesman-Mulag LC
1100	18.6	Bosch				Co	SU	4	2-L	Sp	Sp	W	EP	IRW	S&N	R	CS	RS	Nacke 2
1000	13.7	Bosch	Fenag		Yes	Co	SU	4	2-L	Sp	Sp	W	EP	IRW	S&N	R	CS	RS	Nacke 3
650	11.1	Bosch	Fenag		Yes	Co	SU	4	2-L	Sp	Sp	W	EP	IRW	S&N	R	CS	RS	Nacke 5
900	17.1	Bosch			No	Co	SU	4	2-M	Sp	TA	DR	EP	IRW	S&N	R	D	RS	NAG KL8
900	18.6	Bosch	Bosch	12	Yes	Co	SU	7	FM	Sp	TA	DR	EP	IRW	S&N	R	D	RS	NAG K08
900	11.2	Bosch	Bosch	12	Yes	Co	SU	4		RR		Ch	EP	IRW	S&N	R	D	RS	NAG L8
900	14.6	Bosch	Bosch	12	Yes	Co	SU	7	FM	Sp	TA	BS	EP	IRW	S&N	R	D	RS	NAG L8C
1000	18.6	Bosch			No	Ds	SU	4	2-M	Sp	Sp	BS	EP	IRW	S&N	R	D	RS	NSU 2.5
1000	18.6	Bosch	Bosch	12	Yes	Co	SU	4	2-M	Sp	TA	BS	EP	IRW	W	R	CS	RS	Opel 4T
1000	17.4	Bosch	Bosch	12	Yes	Co	SU	4	2-M	Sp	TT	BS	EP	IRW	S&N	R	W	RS	Vomag P20t
1000	17.4	Bosch	Bosch	12	Yes	Co	SU	4	2-M	Sp	TT	BS	EP	IRW	S&N	R	W	RS	Vomag P30z
1000	12.4	Bosch	Bosch	12	Yes	Co	SU	4		RR		Ch	EP	ERW	S&N	R	CS	RS	Vomag P40zK
1000	9.3	Bosch	Bosch	12	Yes	Co	SU	4		RR		Ch	EP	ERW	S&N	R	CS	RS	Vomag P45fz
1000	9.9	Bosch	Bosch	12	Yes	Co	SU	4	1-M	Sp	TT	BS	EP	ERW	S&N	R	CS	RS	Vomag P45ro

UNIVERSAL JOINTS:
F—Fabric
M—Metal
F. M.—Fabric and Metal
L—Leather

DRIVE AND TORQUE TAKEN BY:
T. T.—Torque Tube
Sp—Springs
R. R.—Radius Rods
T. A.—Torque Arm
Fr—Fork

FINAL DRIVE:
S. B.—Spiral Bevel
W—Worm
B. V.—Straight Bevel
Ch—Chain
B. S.—Bevel and Spur (double reduction)
I. G.—Internal Gear
Pl—Planetary

SPRINGS:
All European trucks listed have semi-elliptic springs front and rear with exception of Renault ¼ and ⅜ ton models, which have transverse rear springs.

BRAKES:
I—Internal
E—External
R. W.—Rear Wheels
F. W.—Front Wheels
P—Propeller shaft

STEERING GEAR:
S. N.—Screw and Nut
W. W.—Worm and Wheel
W. S.—Worm and Sector
W—Worm and Wheel or Worm and Sector

DRIVE:
R—Right L—Left

LOCATION DRIVER'S SEAT:
S. E.—Side of Engine
R. E.—Rear of Engine
O. E.—Over Engine

WHEELS:
C. S.—Cast Steel
Wd—Wood
D—Disk
H. S.—Hollow Pressed Steel Spoked
A. D.—Aluminum Disk
St—Steel

FRAME:
F. P.—Flitch Plate
P. S.—Pressed Steel
R. S.—Rolled Steel

American Stock

MAKE AND MODEL	Designed for	Number of Cylinders Bore and Stroke	Rated Horsepower (N.A.C.C.)	Piston Displacement (Cu.Ins.)	Engine Type	CYLINDERS		CRANKCASE			VALVES				CAMSHAFT			PISTONS					
								Upper Half															
						Head	Number per Casting	Integral with Cylinders	Material	Material of Lower Half	Arrangement	Head Material	Clear Diameter (Ins.)	Lift (Ins.)	Location	Driven by	Type of Gear	Material	Length (Ins.)	Weight (Ozs.)	Pin Diameter (Ins.)	Bushings in Rod or Piston	Number Rings per Piston
Ansted	C	Cars	6-3¼x4½	25.40	224	Ver	Det	6	Int	Iron	P.st	IH	C.I	1.62	.38	In.C	Hel	M&NM	C.I	3.53	28.00	.87	None	3
Automatic	J5	Tractors	4–5 x7	40.00	549	Ver	Int	1	Sep	Iron	Iron	"L"H	St	2.25	.44	In.C	Spur		C.I	6.68		1.43	Rod	4
Automatic	J5½	Tractors	4–5½x7	48.40	665	Ver	Int	1	Sep	Iron	Iron	"L"H	St	2.25	.44	In.C	Spur		C.I	7.00		1.43	Rod	4
Automatic	M	Tractors	4–6½x8	67.10	1061	Ver	Det	1	Sep	Iron	Iron	"L"H	St	2.50	.56	In.C	Spur		C.I	9.00		1.68	Pist	4
Automatic	N	Tractors	4–7½x9	89.80	1588	Ver	Det	1	Sep	Iron	Iron	"L"H	St	3.00	.56	In.C	Spur		C.I	10.50		2.00	Pist	4
Automatic	R	Tractors	4–8½x10	111.50	2288	Ver	Det	1	Sep	Iron	Iron	"L"H	St	3.25	.68	In.C	Spur		C.I	12.31		2.43	Pist	4
Beaver	CL	Cars	6–3½x5¼	29.40	295	Ver	Det	6	Sep	Al	Al	IH	C.I	1.62	.37	In.C	Chain		C.I	4.75	46.00	1.09	Rod	4
Beaver	JA	Trucks	4–4½x6	32.40	381	Ver	Det	4	Sep	Iron	Iron	IH	C.I	2.00	.37	In.C	Hel	Metal	C.I	5.31	118.00	1.50	Pist	4
Beaver	JB	Tractors	4–4¾x6	36.00	425	Ver	Det	4	Sep	Iron	Iron	IH	C.I	2.00	.37	In.C	Hel		C.I	5.31	134.00	1.50	Pist	4
Brennan	M	T,B,Tr	4–4 x5	25.60	251	Ver	Int	4	Sep	Iron	Al	"L"H		1.93	.37	In.C	Hel	Metal	C.I	5.00	80.00	1.12	Pist	3
Brennan	B	T,B,Tr	4–4½x5	32.40	318	Ver	Int	2	Sep	Iron	Al	"L"H	St	2.00	.37	In.C	Hel	Metal	C.I	5.25	80.00	1.25	Pist	3
Brennan		C, B	6–4 x5½	38.40	414	Ver	Det	3	Sep	Al	Al	IH	St	2.00	.37	In.C	Hel	Metal	C.I	5.00	64.00	1.12	Rod	4
Buda	CBU	Buses	4–3¾x5¼	22.50	231	Ver	Det	4	Sep	Al	Al	"L"H	St	1.62	.31	In.C	Hel	Metal	C.I	5.00		1.06	Rod	4
Buda	WTU	C, T	4–3¾x5½	22.50	226	Ver	Det	4	Sep	Iron	Iron	"L"H	St	1.50	.28	In.C	Hel	Metal	C.I	4.50		1.06	Rod	4
Buda	GTU	T, Tr	4–4 x5¼	25.60	263	Ver	Det	4	Sep	Iron	Iron	"L"H	St	1.62	.28	In.C	Hel	Metal	C.I	5.00		1.06	Rod	4
Buda	GBU	Buses	4–4 x5¼	25.60	263	Ver	Det	4	Sep	Al	Al	"L"H	St	1.62	.31	In.C	Hel	Metal	C.I	5.00		1.06	Rod	4
Buda	ETU	T, Tr	4–4¼x5½	28.90	312	Ver	Det	4	Sep	Iron	Iron	"L"H	St	1.87	.28	In.C	Hel	Metal	C.I	5.37		1.12	Rod	4
Buda	EBU	Trucks	4–4¼x5½	28.90	312	Ver	Det	4	Sep	Al	Al	"L"H	St	1.87	.31	In.C	Hel	Metal	C.I	5.37		1.12	Rod	4
Buda	YTU	T, Tr	4–4½x6	32.40	381	Ver	Det	4	Sep	Iron	Iron	"L"H	St	2.12	.28	In.C	Hel	Metal	C.I	6.25		1.25	Rod	4
Buda	YBU	Trucks	4–4½x6	32.40	381	Ver	Det	4	Sep	Al	Al	"L"H	St	2.12	.31	In.C	Hel	Metal	C.I	6.25		1.25	Rod	4
Buda	BTU	T,Tr	4–5 x6½	40.00	510	Ver	Det	4	Sep	Iron	Iron	"L"H	St	2.25	.31	In.C	Hel	Metal		6.75		1.37	Rod	4
Cameron	Air Cooled	T, Tr	4–3¼x4½	16.90	149	Ver	Int	1	Sep	Iron	Iron	IH	C.I	1.50	.31	In.C	Spur	Metal	C.I	3.50	17.00	.87	Rod	3
Climax	K-KU-KL	T, Tr	4–5 x6½	40.00	510	Ver	Det	2	Sep	Iron	Iron	"L"H	C.I	2.25	.31	In.C	Hel	Metal		5.75	125.00	1.37	Rod	3
Climax	T-TU	Tractors	4–5½x7	48.40	665	Ver	Det	2	Sep	Iron	Iron	"L"H	C.I	2.25	.31	In.C	Spur	Metal	S St	7.00	203.00	1.50	Rod	3
Climax	R-6	Tractors	6–5½x7	73.60	997	Ver	Det	2	Sep	Iron	Iron	"L"H	C.I	2.25	.37	In.C	Hel	Metal	C.I	6.50			Pist	3
Continental	J4	T, Tr	4–3¾x5	22.50	220	Ver	Det	4	Sep	Al	Al	"L"H	St	1.62	.31	In.C	Hel	Metal	C.I	4.87	50.00	1.12	Rod	4
Continental	6Y	Cars	6–3½x4¼	23.40	195	Ver	Det	6	Int	Iron	P.st	"L"H	St	1.50	.31	In.C	Chain		C.I	3.12	27.00	.75	Rod	3
Continental	7R	Cars	6–3¼x4½	25.35	224	Ver	Det	6	Sep	Al	P.st	"L"H	St	1.50	.31	In.C	Hel	Metal	C.I	4.06	37.00	.86	Rod	3
Continental	K4	T, Tr	4–4½x5¼	27.20	281	Ver	Det	4	Sep	Al	Al	"L"H	St	1.87	.31	In.C	Hel	Metal	C.I	5.44	62.00	1.25	Rod	4
Continental	8R	Cars	6–3¾x4½	27.34	241	Ver	Det	6	Sep	Al	P.st	"L"H	St	1.50	.31	In.C	Hel	M&NM	C.I	4.06	33.00	.86	Rod	3
Continental	9N	Cars	6–3½x5¼	29.40	303	Ver	Int	6	Sep	Al	P.st	"L"H	St	1.53	.28†	In.C	Hel	N-M	C.I	4.50	43.00	1.15	Rod	3
Continental	6T	Cars	6–3⅝x5¼	31.54	324	Ver	Det	6	Sep	Al	P.st	"L"H	St	1.81	.31	In.C	Chain		C.I	4.37	42.00	1.12	Rod	3
Continental	L4	T, Tr	4–4½x5½	32.40	350	Ver	Det	2	Sep	Al	Al	"L"H	St	2.00	.31	In.C	Hel	Metal	C.I	5.94	75.00	1.37	Rod	4
Continental	B5	T, Tr	4–4¾x6	36.10	424	Ver	Det	2	Sep	Al	Al	"L"H	St	2.12	.31	In.C	Hel	Metal	C.I	6.12	80.00	1.50	Rod	4
Erd	B25	C,T,B,Tr	4–3¾x6	22.50	265	Ver	Det	4	Sep	Iron	Al	IH	St	1.87	.37	In.C	Hel	Metal	C.I	4.50		1.21	Pist	3
Erd	B	T,B,Tr	4–4½x6	32.40	381	Ver	Det	4	Sep	Iron	Al	IH	St	2.00	.37	In.C	Hel	Metal	C.I	5.25		1.22	Pist	3
‡‡Erd	TF-TFU	Tractors	4–4¼x6	28.90	340	Ver	Det	4		Iron	Al	IH	St			In.C	Hel	Metal	C.I	5.25	60.00	1.25	Pist	3
Erd	B35	T,B,Tr	4–4¼x6	28.90	340	Ver	Det	4	Sep	Al	St	IH	St	2.00	.38	In.C	Hel	Metal	C.I	5.00		1.21	Pist	3
Falls	T8000	Cars	6–3⅛x4¼	23.44	195	Ver	Det	6	Int	Iron	P.st	IH	C.I	1.34	.28	In.C	Hel	M&NM	C.I	3.50	24.00	.75	Pist	3
G. B. & S	AA	C,T,B,Tr	4–3¾x5	22.50	220	Ver	Int	4	Sep	Al	Al	"L"H	C.I	1.67	.35	In.C	Hel	Metal	C.I	3.75	49.00	1.09	Rod	3
G. B. & S	S	C, T	4–3¾x4¼	22.50	187	Ver	Det	4	Sep	Iron	P.st	"L"H	C.I	1.56	.21	In.C	Spur	N-M	C.I	3.81	44.00	.75	Pist	3
Gray-Beall	K	Cars	4–3½x5	19.60	192	Ver	Det	4	Int	Iron	P.st	IH	C.I	1.62	.38	In.C	Chain		C.I	3.87		1.00	Rod	3
Gray-Beall	T	T, Tr	4–3½x5	19.60	192	Ver	Det	4	Int	Iron	P.st	IH	C.I	1.62	.38	In.C	Hel	Metal	C.I	3.87		1.00	Rod	3
Hercules	CU2	T, Tr	4–3¾x5⅛	22.50	226	Ver	Det	4	Sep	Iron	Iron	"L"H	St	1.68	.34	In.C	Hel	Metal	C.I	4.87	66.00	1.12	Rod	4
Hercules	O	T, Tr	4–4 x5	25.60	251	Ver	Det	4	Int	Iron	P.st	"L"H	St	1.62	.34	In.C	Hel	Metal	C.I	4.87	68.00	1.37	Pist	3
Hercules	CU3	T, Tr	4–4 x5⅛	25.60	257	Ver	Det	4	Sep	Iron	Iron	"L"H	St	1.68	.34	In.C	Hel	Metal	C.I	4.87	76.00	1.81	Rod	4
Hercules	MU2	T, Tr	4–4¼x5½	28.90	312	Ver	Det	4	Sep	Iron	Iron	"L"H	St	1.87	.34	In.C	Hel	Metal	C.I	5.12	80.00	1.25	Rod	4
Hercules	MU3	T, Tr	4–4½x5½	32.40	349	Ver	Det	4	Sep	Iron	Iron	"L"H	St	1.87	.34	In.C	Hel	Metal	C.I	5.12	88.00	1.25	Rod	4
Hercules	T2	T, Tr	4–4¾x6	36.10	425	Ver	Det	2	Sep	Al	Al	"L"H	St	2.12	.34	In.C	Hel	Metal	C.I	5.68	117.00	1.37	Rod	4
Hercules	T3	T, Tr	4–5 x6	40.00	471	Ver	Det	2	Sep	Al	Al	"L"H	St	2.12	.34	In.C	Hel	Metal	C.I	5.68	128.06	1.37	Rod	4
Herschell-Sp	7000	C,T,B,Tr	4–3½x5	19.60	192	Ver	Det	4	Int	S.st	P.st	"L"H	C.I	1.56	.31	In.C	Hel	Metal	CorA	3.37	37.00	.87	Rod	3
Herschell-Sp	11000	C,T,B,Tr	4–3¼x5	25.30	248	Ver	Det	6	Int	S.st	P.st	"L"H	C.I	1.78	.31	In.C	Hel	Metal	C.I	3.50	35.00	.87	Rod	3
Herschell-Sp	90	C, B	6–3½x5	29.40	288	Ver	Det	6	Int	S.st	P.st	"L"H	St	1.78	.31	In.C	Hel	Metal	C.I	3.37	36.00	.87	Rod	3
Hinkley	300	T,B&Tr	4–3¾x5½	22.50	242	Ver	Det	4	Sep	S.st	P.st	"L" H	C.I	1.75	.31	In.C	Hel	Metal	C.I	4.75	60.00	1.02	Rod	3
Hinkley	400	T,B&Tr	4–4 x5¼	25.60	264	Ver	Det	4	Sep	S.st	P.st	"L"H	C.I	1.75	.31	In.C	Hel	Metal	C.I	4.50	60.00	1.12	Rod	3
Hinkley	500	T,B&Tr	4–4¼x5½	28.90	312	Ver	Det	4	Sep	S.st	Al	"L"H	C.I	2.00	.31	In.C	Hel	Metal	C.I	5.25	81.00	1.25	Rod	3
Hinkley	200	T,B&Tr	4–4½x5½	32.40	350	Ver	Det	4	Sep	S.st	Al	"L"H	C.I	2.00	.31	In.C	Hel	Metal	C.I	5.25	92.00	1.25	Rod	3
LeRoi		C,T,Tr	4-3½x4½	15.60	138	Ver	Det	4	Int	Iron	Iron	"L"H	C.I	1.50	.18	In.C	Hel	Metal	C.I	3.50	24.00	.75	Rod	3
Light	H	C,T&Tr	4–3¼x4½	16.90	149	Ver	Det	4	Int	Iron	Iron	"L"H	C.I	1.37	.28	In.C	Hel	Metal	C.I	4.00	32.00	.75	Rod	3
Lycoming	K	C,T&Tr	4–3½x5	19.60	192	Ver	Det	4	Sep	S.st	P.st	"L"H	St	1.50	.29	In.C	Hel	Metal	C.I	4.00	32.00	.87	Rod	3
Lycoming	CH	C,T&Tr	4–3½x5	19.60	192	Ver	Det	4	Sep	S.st	P.st	"L"H	C.I	1.62	.34	In.C	Hel	N-M	C or A	4.12		1.12	Rod	4
Lycoming	CF	C,T&Tr	4–3⅝x5	21.00	206	Ver	Det	4	Sep	S.st	P.st	"L"H	C.I	1.62	.34	In.C	Hel	N-M	C.I	4.12	34.00	1.12	Rod	4
Lycoming	CT	C,T&Tr	4–3¾x5	22.50	220	Ver	Det	4	Sep	S.st	P.st	"L"H	C.I	1.62	.34	In.C	Hel	N-M	C.I	4.12	33.30	1.12	Rod	4
‡‡Mathews	F	C,T&Tr	4–3½x5	19.60	192	Ver	Det	4	Int		P.st	"L"H	C.I	1.37		In.C	Hel	Metal	C.I	3.78	40.00	.87	Rod	3
‡‡Mathews	LM	C, T	4–3⅞x4	24.00	189	Ver	Det	4	Int		P.st	"L"H	C.I	1.31	.25	In.C	Spur	Metal	C.I	4.25	56.00	.73	Rod	3
Midwest	410	Trucks	4–3⅝x4½	18.20	161	Ver	Det	4	Int	Iron	Al	IH	C.I	1.08	.37	In.C	Hel	Metal	C.I	3.56		.87	Pist	3
Midwest	411, 412	C,T&D	4–3⅝x5	21.00	206	Ver	Det	4	Int	Iron		IH	C.I	1.37	.40	In.C	Hel	Metal	C.I	4.28		1.00	Pist	3
Midwest	402	C,T,DTr	4–4¼x4¼	27.20	227	Ver	Det	2	Sep	Iron	P.st	IH	C.I	1.87	.31	In.C	Hel	Metal	C.I	5.12		1.12	Pist	3
Midwest	610	C, B	6–3⅜x5	27.30	268	Ver	Det	6	Int	Iron	Al	IH	C.I	1.50	.40	In.C	Chain	Metal	C.I	4.21		1.00	Rod	4
Midwest	399, 400	T,B&Tr	4–4¾x6	36.10	425	Ver	Det	2	Sep	Iron	P.st	IH	C.I	2.25	.43	In.C	Hel	Metal	C.I	5.50		1.25	Pist	3
Northway	80	Trucks	4–3½x5½	19.60	212	Ver	Det	1	Int	Iron	Al	"L"H	St	1.62	.39	In.C	Hel	Metal	C.I	4.56	49.00	1.11	Rod	4
Northway	84	Trucks	4–4 x5½	25.60	276	Ver	Det	1	Int	Iron	Al	"L"H	St	1.87	.39	In.C	Hel	Metal	C.I	5.25	70.00	1.23	Rod	4
Northway	88	Trucks	4–4½x6	32.40	382	Ver	Det	1	Int	Iron	Al	"L"H	St	2.25	.44	In.C	Hel	Metal	C.I	5.72	94.00	1.29	Rod	4
Northway	311	Cars	8–3½x4½	39.20	346	Ver	Det	4	Int	Iron	P.st	"L"H	St	1.50	.31	In.C	Hel	M&NM	Al	4.50	21.00	.87	Rod	4
Reliable	10-20	Tractors	2-6 x7	28.80		Hor	Det	2	Sep	S.st	Iron	IH	St			In C	S.G	Metal	C.I				Pist	3
Rochester	G-1	Cars	4–4¼x6	28.90	340	Ver	Int	4	Sep	Al	Al	IH	C.I		.37	In.C	Chain		Al	4.75	40.00	1.24		3
Rochester	O	Cars	6–3¾x5	33.70	331	Ver	Det	6	Sep	Al	Al	IH	C.I	1.56	.37	In.C	Spur	N-M	Al	4.00	26.00	1.09		4
Rutenber	25	Cars	6–3½x5	23.40	230	Ver	Det	6	Int	Iron	P.st	"L"H	C.I	1.31	.31	In.C	Hel	N-M	C.I	3.75	25.00	.75	Rod	4
R & V Knight	H	Cars	6–3½x4½	29.40	260	Ver	Det	6	Sep	Al	Al	S. T.	None			In.C	Chain		C.I	4.43	39.00	1.00	Rod	2

ABBREVIATION:
‡‡—Taken from 1922 Specifications
DESIGNED FOR:
‡—Inlet only—Exhaust greater
C—Cars
T—Trucks
Tr—Tractors
B—Busses

ENGINE TYPE
Ver—Vertical
Hor—Horizontal

CYLINDER HEAD
Det—Detachable
Int—Integral

CRANKCASE
Int—Integral
Sep—Separate
MATERIAL
Al—Aluminum
P. St—Pressed Steel
Br—Bronze
S. St.—Semi Steel

VALVES
St—Steel
C. I.—Cast Iron
I H—In Head
"L" H—"L" Head
"T" H—"T" Head
S. T.—Sleeve Type

Engine Specifications

CONNECTING RODS			CRANKSHAFT							Water Circulation	OILING SYS.		GOVERNOR		Maximum Governed Speed (R.P.M.)	Speed at Which Maximum Torque is Developed	Weight Without Ignition or Carbureter (Lbs.)	GENERAL DIMENSIONS OF ENGINE			Adapted for Kerosene	Bell Housing No. (S.A.E. Standard)	MAKE AND MODEL
					Diameter of Crankshaft Bearings																		
					Front		Rear																
Material	Center to Center Length (Ins.)	Weight (with Bushings and Cap) (ozs.)	Material	Crankpin Diameter (Ins.)	Number of Crankshaft Bearings	Diameter (Ins.)	Length (Ins.)	Diameter (Ins.)	Length (Ins.)		Type	Pump Type	Stock or Optional	Type				Overall Length (Ins.)	Overall Width (Ins.)	Overall Height (Ins.)			
Cst...	8.5	.....	C.st..	2.25	3	1.75	2.48	2.37	3.12	Pump...	Press....	Gear..	No....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ansted..... C
Cst...	14.0	.....	C.st..	2.25	5	2.25	.....	.....	4.00	Pump...	Press....	Gear..	Stk...	Cent...	Opt..	.....	1600	58¾	19½	35½	Yes...	None..	Automatic..... JS
Cst...	14.0	.....	C.st..	2.25	5	2.25	4.75	.....	4.00	Pump...	Press....	Gear..	Stk...	Cent...	Opt..	.....	1650	85¾	19½	35½	Yes...	None..	Automatic..... JS½
Cst...	17.0	.....	C.st..	2.50	5	2.75	6.68	.....	5.00	Pump...	Press....	Gear..	Stk...	Cent...	Opt..	.....	2700	91¾	22	43	Yes...	None..	Automatic..... M
Cst...	19.0	.....	C.st..	3.00	5	3.00	7.00	.....	6.00	Pump...	Press....	Gear..	Stk...	Cent...	Opt..	.....	3750	101¾	24	47½	Yes...	None..	Automatic..... N
Cst...	21.0	.....	C.st..	3.50	.....	3.50	6.50	.....	5.12	Pump...	Press....	Gear..	Stk...	.....	Opt..	.....	4700	112½	27	53½	Yes...	None..	Automatic..... R
Cst...	11.00	68.0	C.st..	.....	3	2.25	2.75	2.62	3.25	Pump...	Sp. Pr...	Gear..	.....	.....	.....	1000	675	54⅜	25	34⅛	Yes...	3	Beaver..... CL
Cst...	12.50	129.0	C.st..	2.25	3	2.37	3.50	2.37	4.50	Pump...	Press....	Gear..	Opt...	.....	.....	700	1000	50	23½	39	Yes...	3	Beaver..... JA
Cst...	12.50	139.0	C.st..	2.25	3	2.37	3.50	2.37	4.50	Pump...	Press....	Gear..	.....	.....	.....	750	1020	50⅛	23½	39	Yes...	2	Beaver..... JB
Ast...	10.00	80.0	A.st..	1.75	3	1.75	4.50	1.75	4.50	Pump...	Sp. Pr...	Gear..	Opt..	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brennan..... M
Ast...	10.00	80.0	A.st..	1.75	3	1.75	4.50	2.00	5.00	Pump...	Sp. Pr...	Gear..	Opt..	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brennan..... B
Ast...	11 00	80.0	A.st..	2.50	3	2.50	3.00	2.75	3.50	Pump...	Fl. Pr...	Gear..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brennan.....
Ast...	11.25	.....	C.st..	2.00	3	1.87	2.87	2.12	3.50	Pump...	Press....	Gear..	Opt..	.....	1400	1250	750	36½	25¾	33½	No...	3	Buda..... CBU
Ast...	11.25	.....	C.st..	1.87	3	1.75	2.50	2.12	3.00	Pump...	Press....	Gear..	Opt..	.....	1500	1800	665	34	25¾	32½	No...	3	Buda..... WTU
Ast...	11.25	.....	C.st..	2.00	3	1.87	2.87	2.12	3.50	Pump...	Press....	Gear..	Opt..	.....	1100	1150	840	36½	25¾	32½	No...	3	Buda..... GTU
Ast...	11.25	.....	C.st..	2.00	3	1.87	2.87	2.12	3.50	Pump...	Press....	Gear..	Opt..	.....	1500	1500	780	36½	25¾	33½	No...	3	Buda..... GBU
Ast...	12.25	.....	C.st..	2.12	3	2.12	3.09	2.37	4.00	Pump...	Press....	Gear..	Opt..	.....	1100	1100	895	40	25¾	34	Yes...	3	Buda..... ETU
Ast...	12.25	.....	C.st..	2.12	3	2.12	3.09	2.37	4.00	Pump...	Press....	Gear..	Opt..	.....	1450	1400	815	40	25¾	35	Yes...	3	Buda..... EBU
Ast...	13.25	.....	C.st..	2.25	3	2.12	3.50	2.37	4.50	Pump...	Press....	Gear..	Opt..	.....	1000	1000	1075	43	25¾	37¼	Yes...	3	Buda..... YTU
Ast...	13.25	.....	A.st..	2.25	3	2.18	3.50	2.37	4.50	Pump...	Press....	Gear..	Opt..	.....	1209	1200	920	43	25¾	38	No...	3	Buda..... YBU
Ast...	14.37	.....	A.st.	2.50	3	2.25	4.12	2.62	4.75	Pump...	Press....	Gear..	Opt..	.....	925	925	1398	45¼	28¾	40½	No...	1	Buda..... BTU
Cst...	9.50	32.0	C.st..	2.00	3	2.00	2.50	2.00	3.00	.....	Sp. Pr...	Gear..	.....	Cent...	.....	.....	400	30	15	25	Yes...	5	Cameron..... Air Cooled
Ast...	13.00	136.0	A.st..	2.25	3	2.18	3.75	2.31	4.62	Pump...	Press....	Ecc...	Stk...	Cent...	Opt...	700	1150*	49½*	25*	39¾*	Yes...	2 &1*	Climax..... K-KU-KL
Ast...	14.00	187.0	A.st..	2.50	3	2.50	3.50	2.50	4.50	Pump...	Press....	Ecc...	Stk...	Cent...	Opt...	700	1500	53	26	44	Yes...	1	Climax..... T-TU
Ast...	16.00	.....	A.st..	3.00	4	3.25	3.75	3.25	4.50	Pump...	Press....	Ecc...	Stk...	Cent...	Opt...	700	.....	72	30	48	.....	1	Climax..... R-6
Cst...	11.00	85.0	C.st..	2.00	3	2.25	2.25	2.25	2.62	Pump...	Fl. Pr...	Gear..	.....	.....	.....	750	590	34	24½	31	No...	3	Continental..... J4
Cst...	8.25	10.5	C.st..	2.00	4	2.00	1.43	2.00	2.34	Pump...	Press....	Gear..	None	.....	.....	1600	470	36¾	24½	28	No...	4	Continental..... 6Y
Cst...	10.50	50.0	C.st..	2.25	4	2.25	2.31	2.25	2.81	Pump...	Press....	Gear..	None	.....	.....	800	580	40¾	24½	30⅜	No...	3	Continental..... 7R
Cst...	11.50	112.0	C.st..	2.12	3	2.25	2.62	2.25	2.75	Pump...	Fl. Pr...	Gear..	Opt..	.....	1300	650	680	37	37¾	24½	No...	2	Continental..... K4
Cst...	10.50	47.0	C.st..	2.25	4	2.25	2.31	2.25	2.81	Pump...	Press....	Gear..	None	.....	.....	1200	590	40¾	24½	30¾	Yes...	3	Continental..... 8R
Cst...	10.25	60.0	C.st..	2.37	3	2.37	2.75	2.28	3.16	Pump...	Sp. Pr...	Pist...	.....	.....	.....	800	.....	42½	24½	29¾	No ...	3	Continental..... 9N
Cst...	11.00	62.0	C.st..	2.37	4	2.37	2.81	2.37	3.06	Pump...	Press....	Gear..	None	.....	.....	800	700	45	24½	31¾	No ...	3	Continental..... 6T
Cst...	12.00	128.0	C.st..	2.25	3	2.25	3.00	2.25	3.25	Pump...	Fl. Pr...	Gear..	Opt..	.....	1200	600	807	14½	24½	38½	Yes...	2	Continental..... L4
Cst...	13.25	160.0	C.st..	2.62	3	2.37	3.39	2.62	3.69	Pump...	Fl. Pr...	Gear..	Opt..	.....	1300	800	998	46	26¾	40½	Yes...	1	Continental..... B5
Cst...	12.00	.....	A.st..	2.50	3	2.50	2.75	2.50	3.37	Pump...	Press....	Gear..	Stk...	Cent...	1200	1100	.....	40¾	20	28¾	Yes...	3	Erd..... B25
Cst...	12.00	.....	A.st..	2.50	3	2.50	2.75	2.50	3.37	Pump...	Press....	Gear..	Stk...	Cent...	1000	800	.....	40¾	20	28½	Yes...	3	Erd..... B
Ast...	12.00	.....	A.st..	2.50	3	2.20	.....	.....	3.38	Pump...	Press....	Gear..	.....	Cent.	1600	.....	.....	41¾	23½	38¼	Yes...	.....	‡‡Erd..... TF-TFU
Cst...	12.00	.....	A.st..	2.50	3	2.50	2.50	2.75	3.38	Pump...	Press....	Gear..	Own..	Cent..	1000	1200	.....	40¾	20	28¾	Yes...	3	Erd..... B35
Cst...	8.12	30.0	C.st..	2.06	3	2.24	2.59	2.21	3.00	Opt....	Press....	Gear..	.....	.....	.....	400	500	38½	20½	29½	No....	3, 4	Falls..... T8000
Cst...	10.25	36.0	C.st..	1.87	3	2.25	3.00	2.25	3.00	Pump...	Press....	Gear..	Opt..	Suc...	1400	900	425	34	25¾	33	Yes...	3	G. B. & S..... AA
Cst...	7.00	32.0	C.st..	1.50	3	1.50	3.87	1.62	4.00	Th-S....	Sp. Pr...	Pist...	Opt...	Suc...	1200	800	366	33	23¼	24	No...	5	G. B. & S..... S
Cst...	11.00	.....	C.st..	2.00	3	2.00	2.56	2.12	3.37	Th-S....	Press....	Gear..	.....	.....	.....	1200	487	33¼	27½	24¾	Yes...	3, 4	Gray-Beall..... K
Cst...	11.00	.....	C.st..	2.00	3	2.00	2.56	2.12	3.37	Th-S....	Press....	Gear..	.....	.....	.....	1200	487	33¼	27½	24¾	Yes...	3, 4	Gray-Beall..... T
Cst...	11.00	82.0	C.st..	2.00	5	2.00	2.25	2.00	3.62	Pump...	Fl. Pr...	Gear..	Opt..	.....	1500	1000	750	38¾	25¾	35½	Yes...	3	Hercules..... CU2
Ast...	9.50	48.6	C.st..	2.00	3	2.00	2.93	2.00	3.31	Pump...	Press....	Gear..	Opt..	.....	1500	1200	618	37¼	26	28¾	No...	3	Hercules..... O
Cst...	11.00	82.0	C.st..	2.00	5	2.00	2.25	2.00	3.62	Pump...	Fl. Pr...	Gear..	Opt..	.....	1500	1000	750	38¾	25¾	35½	Yes...	3	Hercules..... CU3
Cst...	12.00	96.0	C.st..	2.00	5	2.00	2.81	2.00	4.37	Pump...	Fl. Pr...	Gear..	Opt..	.....	1200	900	850	43½	25¾	41	Yes.	2	Hercules..... MU2
Cst...	12.00	96.0	C.st..	2.00	5	2.00	2.81	2.00	4.37	Pump...	Fl. Pr...	Gear..	Opt..	.....	1200	800	850	43½	25¾	41	Yes.	2	Hercules..... MU3
Cst...	13.25	127.0	C.st..	2.37	5	2.37	2.25	2.37	4.00	Pump...	Fl. Pr...	Gear..	Opt..	.....	1200	800	1000	44½	28¾	41¼	Yes...	1	Hercules..... T2
Cst...	13.25	127.0	C.st..	2.37	5	2.37	2.25	2.37	4.00	Pump...	Fl. Pr...	Gear..	Opt..	.....	1200	800	1000	44½	28¾	41¼	Yes...	1	Hercules..... T3
Cst...	11.00	51.0	C.st..	2.00	2	2.00	4.00	2.00	4.00	Th-S....	Sp. Pr...	Gear..	Opt..	.....	.....	2200	446	43	25½	31	No...	3, 5	Herschell-Sp..... 7000
Cst...	11.00	52.0	C.st..	2.00	3	2.12	3.00	2.12	4.00	Pump...	Sp. Pr...	Gear..	Opt..	.....	.....	2200	603	51½	25½	30½	No...	3	Herschell-Sp..... 11000
Cst...	11.00	52.0	C.st..	2.00	3	2.12	3.00	2.12	4.00	Pump...	Sp. Pr...	Gear..	Opt..	.....	.....	2100	620	51½	25½	32¾	No...	3	Herschell-Sp..... 90
Cst...	11.50	98.0	A.st..	2.12	3	2.12	2.25	2.25	3.00	Pump...	Press....	Gear..	Opt..	Cent...	1750	775	734	37¼	25¾	36	Yes...	3	Hinkley..... 300
Cst...	11.50	98.0	A.st..	2.12	3	2.12	2.25	2.25	3.00	Pump...	Press....	Gear..	Opt..	Cent...	1750	1100	739	37¼	25¾	36	Yes...	3	Hinkley..... 400
Cst...	12.00	119.0	A.st..	2.25	3	2.25	2.50	2.37	3.50	Pump...	Press....	Gear..	Opt..	Cent...	1650	900	884	44	25¾	40	Yes...	2	Hinkley..... 500
Cst...	12.00	119.0	A.st..	2.25	3	2.25	2.50	2.37	3.50	Pump ..	Press....	Gear..	Opt..	Cent..	1600	900	896	44	25¾	40	Yes...	2	Hinkley..... 200
Cst...	8.00	34.0	C.st..	1.75	2	1.75	2.75	1.75	2.75	Th-S....	Sp. Pr...	Pist...	Opt...	Cent..	Opt...	1150	310	30	18	24	No...	3, 4	LeRoi.....
Cst...	9.00	42.0	C.st..	1.87	2	1.87	2.37	1.87	2.75	Th-S....	Splash...	Pist...	.....	.....	.....	.....	325	37½	27	26	Yes...	4, 5	Light..... H
Cst...	9.50	40.0	C.st..	2.00	2	2.14	3.18	2.12	3.56	Th-S....	Splash...	Pist...	.....	.....	.....	1000	470	45	22	27¾	Yes...	3	Lycoming..... K
Cst...	12.00	53.0	C st..	2.12	5	2.12	2.62	2.12	2.62	Th-S....	Press....	Gear..	.....	.....	.....	1000	480	41½	20¼	30¾	Yes...	3, 5	Lycoming..... CH
Cst...	12.00	51.0	C.st..	2.12	5	2.12	2.62	2.12	2.62	Th-S....	Fl. Pr...	Gear..	.....	.....	.....	1100	490	41½	20¼	30¾	Yes...	3, 5	Lycoming..... CF
Cst...	12.00	51.0	C.st..	2.12	5	2.12	2.62	2.12	2.62	Th-S....	Press....	Gear..	.....	.....	.....	1100	500	41½	20¼	30¾	No...	3, 5	Lycoming..... CT
Cst...	9.25	51.0	C.st..	1.75	3	2.00	.....	.....	3.25	Pump...	Sp. Pr...	Gear..	Stk...	Cent...	2800	.....	445	35	27	29½	Yes...	Opt...	Mathews..... F‡‡
Cst...	.....	36.0	C.st..	1.25	3	1.25	.....	.....	3.12	Th-S....	Sp. Pr...	Gear..	None..	.....	2000	.....	230	.....	.....	.....	No...	5	Mathews..... LM‡‡
Cst...	8.50	.....	C.st..	2.25	2	2.25	2.37	2.25	3.37	Th-S....	Press....	Gear..	None..	.....	.....	1000	.....	34½	25¾	32½	Yes...	3, 4	Midwest..... 410
Cst...	10.00	.....	C.st..	.....	2	2.50	2.75	2.50	2.31	Pump...	Press....	Gear..	None..	.....	.....	1100	600	38¾	25¾	36½	Yes...	2, 3	Midwest..... 411, 412
Cst...	10.50	.....	C.st..	2.50	3	2.50	2.75	2.50	3.31	Pump...	Press....	Gear..	None..	.....	.....	1100	905	44	25¾	36¾	Yes...	2, 3	Midwest..... 402
Cst...	11.50	.....	C.st..	2.50	3	2.50	2.25	2.50	2.75	Pump...	Fl. Pr...	Gear..	None..	.....	.....	800	.....	41¾	25¾	37	Yes...	3	Midwest..... 610
Cst...	12.00	.....	C.st..	3.00	3	3.00	3.31	3.00	3.87	Pump...	Press....	Gear..	None..	.....	.....	800	1200	47½	25¾	40¼	.....	2, 3	Midwest..... 399, 400
Cst...	11.00	.....	C.st..	2.00	3	2.12	2.50	2.25	2.72	Pump...	Fl. Pr...	Gear..	Stk...	Cent...	1500	1000	633	45	24¾	34¼	No...	Spec...	Northway..... 80
Cst...	11.00	.....	C.st..	2.12	3	2.12	2.75	2.25	3.41	Pump...	Fl. Pr...	Gear..	Stk...	Cent...	1200	1000	733	51	24¾	35¾	No...	Spec..	Northway..... 84
Cst...	12.00	.....	C.st..	2.37	3	2.25	3.69	2.37	3.81	Pump...	Fl. Pr...	Gear..	Stk..	Cent..	1000	1000	892	.....	.....	.....	No...	Spec..	Northway..... 88
Cst...	9.50	.....	C.st..	2.12	3	2.00	3.06	2.12	3.72	Pump...	Press....	Gear..	None..	.....	.....	.....	715	.....	.....	.....	No...	.....	Northway..... 311
Cst...	.....	.....	C.st..	3.00	2	3.00	5.00	3.00	5.00	Pump...	Fl. Pr...	Ecc...	Stk...	Cent..	.....	.....	1000	.....	.....	.....	Yes...	.....	Reliable..... 10-20
Ast...	12.00	62.0	A.st..	2.31	2	2.31	3.98	2.31	4.31	Pump...	Press....	Gear..	.....	.....	.....	.....	600	40	26	35½	No...	.....	Rochester..... G-1
Cst...	10.00	43.0	A.st..	2.24	3	2.25	2.50	2.25	3.25	Pump...	Press....	Gear..	.....	.....	.....	.....	700	43½	24¼	32¾	No...	.....	Rochester..... O
Cst...	9.50	.....	C.st..	2.00	3	2.00	2.75	2.00	3.12	Pump...	Sp. Pr...	Pist...	None..	.....	.....	800	545	49½	26	26½	No...	3	Rutenber..... 25
Ast...	10.75	.....	C.st..	2.37	4	2.25	2.12	2.43	2.87	Th-S....	Press....	Gear..	.....	.....	.....	800	750	.....	.....	.....	No...	3	R & V Knight..... H

CAMSHAFT
In C—In Crankcase
Hel—Helical
S. G.—Spur Gear
M&NM—Combination Metal and Non-Metallic
N.-M—Non-Metallic
WATER CIRCULATION
Th. S—Thermo Siphon

PISTONS
C. I.—Cast Iron
Al—Aluminum
C or A—Cast Iron or Aluminum
Pist—Piston
CONNECTING RODS AND CRANKSHAFT
C. St—Carbon Steel
A. St—Alloy Steel

OILING SYSTEM
SP. PR—Splash with pressure to main bearings only
Press—Pressure to all bearings excluding wrist pins
FL. PR—Pressure to all bearings including wrist pins
Ecc—Eccentric
Pist—Piston

GOVERNOR
Stk—Stock
Opt—Optional
Cent—Centrifugal
Suc—Suction
*—Varies according to type of Bell Housing

American Stock Engine

MAKE AND MODEL	Designed for	Number of Cylinders Bore and Stroke	Rated Horsepower (N.A.C.C.)	Piston Displacement (Cu. Ins.)	Engine Type	CYLINDERS		CRANKCASE			VALVES				CAMSHAFT			PISTONS					
								Upper Half															
						Head	Number per Casting	Integral with Cylinders	Material	Material of Lower Half	Arrangement	Head Material	Clear Diameter (Ins.)	Lift (Ins.)	Location	Driven by	Type of Gear	Material	Length (Ins.)	Weight (Ozs.)	Pin Diameter (Ins.)	Bushings in Rod or Piston	Number Rings per Piston
Stearns	GU	Trucks	4-4¼x6	28.90	340	Ver	Det	4	Sep	Al	Al		St	2.00	.37	In.C	Hel	Metal	C.I	5.75		1.50	Rod	4
Stearns	HU	T, Tr	4-4½x6	32.40	381	Ver	Det	4	Sep	Al	Al	IH	St	2.00	.37	In.C	Hel	Metal	C.I	5.75		1.50	Rod	4
Stearns	A & AU	Tractors	4-4¾x6½	36.10	460	Ver	Det	4	Sep	Iron	Al	IH	St	2.75	.37	In.C	Hel		C.I	6.00		1.62	Rod	4
Stearns	EU	Tractors	4-5½x6½	48.40	617	Ver	Det	4	Sep	Iron	Iron	IH	St	1.68	.50	In.C	Hel		C.I	6.00		1.62	Rod	
‡‡Supreme	5-K	Cars	6-3¼x4½	25.35	224	Ver	Det	6	Int	Iron	Al	"L"H	St	1.62	.30	In.C	Hel	Metal	C.I	4.12	24.00	.87		3
‡‡Supreme	S-4	C,T,Tr	4-3¾x5	18.23	220	Ver	Det	4	Int	Iron	P.st	"L"H	St	1.62	.30	In.C	Hel	Metal	C.I	4.12	26.00	.87		3
Turmo	N	C, Tr	4-3 x4½	14.40	120	Ver	Int	4	Sep	S.st	P.st	"L"H	C.I	1.50	.31	In.C	Hel		C.I	3.25		.75	Rod	3
Turmo	O	C, Tr	4-3 x5	14.40	141	Ver	Int	4	Sep	S.st	P.st	"L"H	C.I	1.50	.31	In.C	Hel		C.I	3.25		.75	Rod	3
Turmo	S	C, T, Tr	4-3½x5	19.60	192	Ver	Det	4	Sep	S.st	P.st	"L"H	C.I	1.50	.31	In.C	Hel		C.I	3.75		.87	Rod	3
Turmo	H	C,T,B,Tr	4-3¾x5	22.50	221	Ver	Det	4	Sep	S.st	P.st	"L"H	C.I	1.75	.37	In.C	Hel		C.I	4.00		1.00	Rod	4
Twin City	TW	T,Tr	4-4¼x6	28.90	340	Ver	Det	4	Int	S.st	P.st	IH	St	1.65	.31	In.C	Hel	Metal	C.I	5.15	63.00	1.25	Rod	4
Twin City	AE	T,Tr	4-5½x6¾	48.40	641	Ver	Det	4	Int	S.st	Al	IH	St	2.09	.44	In.C	Hel	Metal	C.I	6.75	144.00	1.62	Rod	4
Twin City	TR	Tractors	4-6¼x8	62.50	981	Ver	Det	2	Sep	S.st	P.st	"L"H	C.I	2.50	.62	In.C	Hel	Metal	C.I	7.75	271.00	1.87	Rod	4
Twin City	BE	Tractors	4-7¾x9	95.19	1598	Ver	Det	1	Sep	S.st	P.st	IH	C.I	3.34	.69	In.C	Hel	Metal	C.I	10.25	531.00	2.19	Rod	4
Twin City	TA	Tractors	4-7¼x9	84.10	1186	Ver	Det	1	Sep	S.st	P.st	IH	C.I	3.34	.69	In.C	Hel	Metal	C.I	10.00	484.00	2.19	Rod	4
Waukesha	BUX	T, B, Tr	4-3¾x5¼	22.50	232	Ver	Det	4	Sep	Al	Iron	"L"H	C.I	1.75	.31	In.C	Hel	Metal	C.I	3.87	50.00	1.00	Rod	3
Waukesha	Y	T, B, Tr	4-4 x5¼	25.60	264	Ver	Det	4	Int	Iron	Al	"L"H	C.I	1.62	.31	In.C	Hel	Metal	Al	4.62	39.00	1.00	Rod	2
Waukesha	FU	T, B, Tr	4-4 x5¾	25.60	289	Ver	Det	2	Sep	Al	Iron	"L"H	C.I	2.00	.34	In.C	Hel	Metal	C.I	5.56	89.00	1.25	Pist	3
Waukesha	CU	T, B, Tr	4-4⅜x5¾	30.60	346	Ver	Det	2	Sep	Al	Iron	"L"H		2.00	.34	In.C	Hel	Metal	C.I	5.56	100.00	1.25	Pist	3
Waukesha	DU	T, B, Tr	4-4½x6¼	32.40	398	Ver	Det	2	Sep	Al	Iron	"L"H	C.I	2.12	.34	In.C	Hel	Metal	C.I	5.87	120.00	1.37	Pist	3
Waukesha	EU	T, B, Tr	4-5 x6¼	40.00	491	Ver	Det	2	Sep	Al	Iron	"L"H	C.I	2.12	.34	In.C	Hel	Metal	C.I	6.50	137.00	1.37	Pist	3
Waukesha	YA	T, Tr	4-3¾ 5¼	22.50	231	Ver	Det	1	Int	Iron	Al	"L"H		1.62	.31	In.C	Hel		Al	4.62	33.00	1.00		4
Weidely	MB	Cars	4-3¾x5½	22.50	242	Ver	Det	4	Sep	Al	Al	IH	St	1.87	.31	In.C	Hel	Metal	C.I	3.96	40.00	1.00	Rod	3
Weidely	MAT	C,B	4-3¾x5½	22.50	242	Ver	Det	4	Int	S.st	Iron	IH	St	1.87	.31	In.C	Hel	Metal	C.I	4.56	137.00	1.00	Rod	4
Weidely	R	Cars	6-3¼x5	25.39	248	Ver	Det	6	Int	S.st	Al	IH	C.I	1.62	.34	In.C	Chain		C.I	3.87	20.00	.87	Rod	3
Weidely	M	T, Tr	4-4 x5½	25.60	276	Ver	Det	4	Int	S.st	Iron	IH	C.I	1.87	.31	In.C	Hel	Metal	C.I	4.50	48.00	1.00	Rod	4
W-S-Morgan	C-4	T, B, Tr	4-4¾x6	36.10	425	Ver	Det	4	Int	S.st	Iron	IH	C.I	2.31	.33	In.C	Hel	Metal	C.I	6.00	116.00	1.37	Rod	3
W-S-Morgan	102	C,T,B,Tr	4-4¾x6	36.10	425	Ver	Det	4	Int	S.st	Iron	IH		2.31	.33	In.C	Hel	Metal	C.I	6.00	116.00	1.37	Rod	3
Wisconsin	TAU	C,T,B,Tr	4-4 x6	25.60	301	Ver	Det	4	Sep	Al	Al	"L"H	St	2.03	.31	In.C	Hel	Metal	C.I	5.37	65.00	1.18	Rod	3
Wisconsin	UAU	C,T,B,Tr	4-4¼x6	28.90	340	Ver	Det	4	Sep	Al	Al	"L"H	St	2.03	.31	In.C	Hel	Metal	C.I	5.12	75.00	1.18	Rod	3
Wisconsin	VAU	C,T,B,Tr	4-4½x6	32.40	381	Ver	Det	4	Sep	Al	Al	"L"H	St	2.03	.31	In.C	Hel	Metal	C.I	4.93	82.00	1.18	Rod	3
Wisconsin	SU	C,T,B,Tr	4-4 x5	25.60	251	Ver	Det	4	Int	Iron	P.st	IH	St	1.50	.29	In.C	Hel	Metal	C.I	4.25	48.00	1.06	Rod	3
Wisconsin	NU	C,T,B,Tr	4-4¼x5	28.90	283	Ver	Det	4	Sep	Al	Al	"L"H	St	1.71	.28	In.C	Hel	Metal	C.I	4.56	52.00	1.18	Rod	3
Wisconsin	RAU	C,T,B,Tr	4-4¾x6	36.10	425	Ver	Det	2	Sep	Al	Al	"L"H	St	2.12	.34	In.C	Hel	Metal	C.I	6.12	99.00	1.37	Rod	3
Wisconsin	RBU	C,T,B,Tr	4-5 x6	40.00	471	Ver	Det	2	Sep	Al	Al	"L"H	St	2.12	.34	In.C	Hel	Metal	C.I	5.90	109.00	1.37	Rod	3
Wisconsin	M	T,B,Tr	4-5¾x7	52.90	727	Ver	Int	2	Sep	Al	Al	"T"H	St	2.81	.37	In.C	Hel	Metal	C.I	6.50	154.00	1.43		4
Wisconsin	P	T,B,Tr	6-5¾x7	79.35	1090	Ver	Int	2	Sep	Br	Al	"T"H	St	2.81	.37	In.C	Hel	Metal	C.I	6.50	154.00	1.43		4

For abbreviations see pages 428-429.

American Stock

MAKE AND MODEL	Designed For	Maximum Torque of Engine With Which Clutch Can Be Used (Lbs.ft.)	Maximum Torque Capacity of Clutch When New (Lbs.ft.)	Recommended Ratio of Max. Torque of Clutch to Max. Torque of Engine	Type	Dry or in Oil	Facing Material	Max. Co-Efficient of Friction	Thickness of Facing (Ins.)	Mean Radius of Friction Faces (Ins.)	DIAMETER OF FACING		No. of Wearing Faces of Friction Material	Area of Each Friction Face (Sq. in.)	Number of Driving Members	Number of Driven Members
											Maximum (Ins.)	Minimum (Ins.)				
Ansted	C,T,B,Tr	175	200		Multiple Disk	Dry	Molded Comp	.05	.12	3.79	8.63	6.52	10	25.2	5	5
Bierman	Tractors	208			Ex. Shoe	Dry	Woven Fabric	.20	.19				1	36.0	2	1
Borg & Beck	M	Cars	100	250	1.50	Single Plate	Dry	Woven Fabric	.30	.12	3.31	7.87	5.37	4	26.0	2	1
Borg & Beck	DX	C,T	180	400	1.50	Single Plate	Dry	Woven Fabric	.30	.12	4.16	9.87	6.75	4	40.8	2	1
Borg & Beck	GX	C,T	240	500	1.50	Single Plate	Dry	Woven Fabric	.30	.12	5.03	11.87	8.25	4	57.2	2	1
Borg & Beck	RGX	T,B,Tr	240	500	1.50	Single Plate	Dry	Woven Fabric	.30	.12	4.78	11.87	7.25	4	69.4	2	1
Borg & Beck	FJX	T,B,Tr	360	700	1.50	Single Plate	Dry	Woven Fabric	.30	.12	5.37	13.87	7.75	4	103.0	2	1
Brown Lipe	20	C,T	84	84		Multiple Disk	Dry	Molded Comp		.16-.18	3.65	8.44	6.25	6	25.0	3	3
Brown Lipe	30	C,T	125	125		Multiple Disk	Dry	Molded Comp		.16-.18	3.65	8.44	6.25	8	25.0	4	4
Brown Lipe	35	C,T,B	184	184		Multiple Disk	Dry	Molded Comp		.16-.18	3.65	8.44	6.25	10	25.0	10	10
Brown Lipe	50	C,T,B	208	208		Multiple Disk	Dry	Molded Comp		.16-.18	3.65	8.44	6.25	12	25.0	6	6
Brown Lipe	55	T,B	250	250		Multiple Disk	Dry	Molded Comp		.16-.18	3.65	8.44	6.25	14	25.0	7	7
Brown Lipe	60	T,B	275	275		Multiple Disk	Dry	Molded Comp		.16-.18	3.65	8.44	6.25	16	25.0	8	8
Brown Lipe	A	C,T				Single Plate	Dry	Molded Comp			4.25	10.00	7.00	4	40.0	1	1
Chicago		C,T,B,Tr				Single Plate	Dry	Molded Comp		.19	3.81	9.25	6.00	4	40.0	1	2
Detlaff	JA-2 to 4	Cars	Var	Var	2.50	Multiple Disk	Dry	Woven Fabric	.36	.12	3.33	7.87	5.44	Var	25.5	Var	Var
Detlaff	M-E to 7	Cars	Var	Var	2.50	Multiple Disk	Dry	Woven Fabric	.36	.16	3.69	8.19	6.50	Var	19.4	Var	Var
Detlaff	H-4 to 9	C,T,B,Tr	Var	Var	2.50	Multiple Disk	Dry	Woven Fabric	.36	.15	3.69	8.19	6.50	Var	19.4	Var	Var
Hilard	XD-12	Tractors	277	1443		Multiple Disk	Oil	Molded Comp	.30	.12	4.40	10.75	6.87	12	53.7	6	6
Hillard	S-8	T, Tr	600	1418	2.00	Multiple Disk	Dry	Woven Fabric	.30	.12	4.91	11.75	7.87	8	60.0	4	4
Hillard	S-6	T,B,Tr	450	997	2.00	Multiple Disk	Dry	Woven Fabric	.30	.12	4.91	11.75	7.87	6	60.0	3	3
Hillard	S-10	T,B,Tr	450	709	2.00	Multiple Disk	Oil	Woven Fabric	.30	.12	4.91	11.75	7.87	6	60.0	3	3
Hillard	XDA	T,B,Tr	325	787	2.00	Multiple Disk	Dry	Woven Fabric	.30	.12	4.40	10.75	6.87	4	53.7	2	2
Hillard	XDG	T,B,Tr	325	630	2.00	Multiple Disk	Oil	Woven Fabric	.30	.12	4.40	10.75	6.87	4	53.7	2	2
Hoosier	K1-8	Cars	135	270	2.00	Single Plate	Dry	Woven Fabric	.38	.12	3.34	7.87	5.50	4	25.0	2	1
Hoosier	K2-10	C,T,Tr	200	400	2.00	Single Plate	Dry	Woven Fabric	.38	.12	4.18	9.87	6.87	4	39.5	2	1
Hoosier	K20-10	C,T,B,Tr	400	800	2.00	Multiple Disk	Dry	Woven Fabric	.38	.12	3.89	9.06	6.50	4	31.1	3	2
Long		Cars				Multiple Disk	Dry	Woven Fabric						4		2	2
M.&E. (Hele-Shaw)	5-10	C,T,B,Tr	Var	Var	2.00	Multiple Disk	Oil	Metal to M	.10	Var.	Var			Var	Var	Var	Var
M. & E.	12-SP	C,T,B,Tr	208	312	1.50	Single Plate	Dry	Molded Comp	.30	.12	5.03	11.87	8.25	2	57.0	2	1
M. & E.	12-DP	C,T,B,Tr	175	262	1.50	Multiple Disk	Dry	Molded Comp	.30	.12	5.03	11.87	8.25	4	57.0	3	2
M. & E.	10-SP	C,T,B,Tr	166	249	1.50	Single Plate	Dry	Molded Comp	.30	.12	4.16	9.87	6.75	2	41.0	2	1
M. & E.	10-DP	C,T,B,Tr	208	312	1.50	Multiple Disk	Dry	Molded Comp	.30	.12	4.16	9.87	6.75	4	41.0	3	2
M. & E.	10	C,T,B,Tr	Var	Var	1.50	Multiple Disk	Dry	Woven Fabric	.30	.12	3.87	9.19	6.31	Var	35.0	3	2
M. & E.	12	C,T,B,Tr	Var	Var	1.50	Multiple Disk	Dry	Woven Fabric	.30	.12	4.59	11.19	7.19	Var	58.0	4	3
M. & E.	8-SP	C,T,Tr	125	187	1.50	Single Plate	Dry	Molded Comp	.30	.12	3.31	7.87	5.37	2	26.0	2	1
M. & E.	8-DP	C,T,Tr	170	255	1.50	Multiple Disk	Dry	Molded Comp	.30	.12	3.31	7.87	5.37	4	26.0	3	2
Positive		C,T,B,Tr		1345		Single Plate	Dry	Woven Fabric		.50	7.50	16.00	14.00		47.1	1	
Twin Disc		C,T,Tr				Multiple Disk	Dry	Woven Fabric		.14				4		1	2

ABBREVIATIONS: **C**—Cars **T**—Trucks **Tr**—Tractors **B**—Buses **Var**—Varies according to requirements of service **Ex. Shoe**—Expanding Shoe **Metal to M**—Metal to Metal **Molded Comp**—Molded Composition

Specifications (Continued)

Material	Center to Center Length (Ins.)	Weight (with Bushings and Cap) (Ozs.)	CRANKSHAFT: Material	Crankpin Diameter (Ins.)	Number of Crankshaft Bearings	Diameter of Crankshaft Bearings: Front Diameter (Ins.)	Front Length (Ins.)	Rear Diameter (Ins.)	Rear Length (Ins.)	Water Circulation	OILING SYS.: Type	Pump Type	GOVERNOR: Stock or Optional	Type	Maximum Governed Speed (R.P.M.)	Speed at Which Maximum Torque is Developed	Weight Without Ignition or Carbureter (Lbs.)	GENERAL DIMENSIONS OF ENGINE: Overall Length (Ins.)	Overall Width (Ins.)	Overall Height (Ins.)	Adapted for Kerosene	Bell Housing No. (S.A.E. Standard)	MAKE AND MODEL
Cast	12.50	180.0	C.St.	2.50	.....	.....	.....	.....	.....	Pump	Fl. Pr.	Gear	Stk.	Cent.	900	800	.....	.....	.....	.....	Yes	2	Stearns GU
Cast	12.50	.....	C.St.	2.50	3	2.50	3.25	2.50	4.00	Pump	Fl. Pr.	Gear	Stk.	Cent.	900	800	.....	.....	.....	.....	Yes	2	Stearns HU
Cast	13.25	200.0	C.St.	2.75	3	2.87	3.50	2.87	4.50	Pump	Fl. Pr.	Gear	Stk.	Cent.	850	750	.....	.....	.....	.....	Yes	1, 2	Stearns A & AU
Cast	13.25	200.0	C.St.	2.75	3	2.87	3.50	2.87	4.50	Pump	Fl. Pr.	Gear	Opt.				.....	.....	.....	.....	Yes	1	Stearns EU
Cast	10.00	27.0	C.St.	2.00	3	2.00	.....	2.00	.....	Pump	Press.	Gear					552	41¾	26	32	No	3	‡‡Supreme 5-K
Cast	10.00	28.0	C.St.	2.00	3	2.00	2.62	2.00	3.69	Th-S.	Press.	Gear	Opt.				1050	450	39	25¾	32½	No	3-5	‡‡Supreme S-4
Cast	10.00	.....	C.St.	2.00	2	1.87	3.12	2.00	3.25	Th-S.	Splash	Ecc.											Turmo N
Cast	10.00	.....	C.St.	2.00	3	1.87	3.12	2.00	3.25	Th-S.	Press.	Gear											Turmo O
Cast	10.00	.....	C.St.	2.00	3	1.87	3.12	2.00	3.25	.....	Press.	Gear											Turmo S
Cast	10.00	.....	C.St.	2.00	3	1.87	3.12	2.00	3.25	Pump	Press.	Gear											Turmo H
Cast	12.00	112.0	C.St.	2.37	3	2.37	3.06	2.75	4.00	Pump	Press.	Gear	Stk.	Cent.	1000	.....	950	44¾	28	39¼	Yes	2	Twin City TW
Cast	14.00	248.0	C.St.	3.00	3	2.87	3.75	3.12	5.75	Pump	Press.	Gear	Stk.	Cent.	900	.....		55¾	35	48	Yes	.....	Twin City AE
Cast	18.00	317.0	C.St.	3.00	3	3.00	6.12	3.00	6.44	Pump	Sp. Pr.	Pist.	Stk.	Cent.	600	.....	2410	69¾	35	52½	Yes	.....	Twin City TR
Cast	20.50	604.0	C.St.	3.50	5	3.50	6.19	3.50	6.69	Pump	Sp. Pr.	Pist.	Stk.	Cent.	535	.....	4000	76	43¾	64	Yes	.....	Twin City BE
Cast	20.50	604.0	C.St.	3.50	5	3.50	6.19	3.50	6.69	Pump	Sp. Pr.	Pist.	Stk.	Cent.	535	.....	4000	76	42	66½	Yes	.....	Twin City TA
Cast	10.62	81.5	C.St.	1.87	3	2.00	2.50	2.00	2.93	Pump	Splash	Gear	Stk.	Cent.	1200	900	615	36¾	21	29	Yes	3	Waukesha BUX
Cast	11.25	102.0	C.St.	2.12	3	2.12	2.00	2.37	2.75	Th-S.	Press.	Gear	Opt.	Cent.	1500	1000	675	37½	25¾	33	Yes	3	Waukesha Y
Cast	12.25	116.5	A.St.	2.37	3	2.37	2.50	2.50	3.25	Pump	Press.	Gear	Stk.	Cent.	1200	1000	910	55½	30½	38¾	Yes	2, 1	Waukesha FU
Cast	12.25	116.5	A.St.	2.37	3	2.37	2.50	2.50	3.25	Pump	Press	Gear	Stk.	Cent.	1200	650	940	55½	30½	38¾	Yes	2, 1	Waukesha CU
Cast	13.25	122.0	A.St.	2.37	3	2.37	2.75	2.50	3.50	Pump	Press.	Gear	Stk.	Cent.	1200	650	1030	58	30½	40½	Yes	1, 2	Waukesha DU
Cast	13.25	136.0	A.St.	2.37	3	2.37	3.25	2.50	4.00	Pump	Press.	Gear	Stk.	Cent.	1000	650	1080	62	30½	40½	Yes	1, 2	Waukesha EU
Cast	11.25	69.0	C.St.	2.12	3	2.37	2.00	2.37	2.75	Th-S.	Press.	Gear	Opt.	Cent.	Opt.	1800	650	37½	25¾	33¾	Yes	3	Waukesha YA
Cast	13.00	70.0	C.St.	2.00	3	2.12	2.50	2.12	4.00	Pump	Press.	Gear				2600	575	38	25¼	35¼	.....	3	Weidely MB
Cast	11.00	74.0	C.St.	2.00	3	2.12	2.50	2.12	4.00	Pump	Press.	Gear				2600	700	40¼	26	31¾	Yes	3	Weidely MAT
Cast	11.00	46.0	C.St.	2.37	3	2.12	2.25	2.37	3.00	Pump	Press.	Gear											Weidely R
Cast	11.00	74.0	C.St.	2.00	3	2.12	2.50	2.12	4.00	Pump	Press.	Gear	Stk.	Cent.	1000	1800	780	39½	24¼	31¼	Yes	.....	Weidely M
Cast	13.25	144.1	A.St.	2.37	3	2.50	2.87	2.50	3.68	Pump	Fl. Pr.	Gear	Stk.	Cent.	.....	900	1250	48½	25¾	40	.....	2	W-S-Morgan C-4
Cast	13.25	144.1	A.St.	2.37	3	2.50	2.87	2.50	3.68	Pump	Fl. Pr.	Gear	Opt.	Cent.	1800	800	1433	48½	26	40¼	Yes	2	W-S-Morgan 102
Cast	12.00	99.0	A.St.	2.00	4	2.00	2.50	2.00	3.50	Pump	Press.	Gear	Opt.				700	46¼	21½	34¾	No	3	Wisconsin TAU
Cast	12.00	99.0	A.St.	2.00	4	2.00	2.50	2.00	3.50	Pump	Press.	Gear	Opt.				715	46¼	21½	34¾	No	3	Wisconsin UAU
Cast	12.00	99.0	A.St.	2.00	4	2.00	2.50	2.00	3.50	Pump	Press.	Gear	Opt.				725	46¼	21½	34¾	No	3	Wisconsin VAU
Cast	10.50	51.0	C.St.	2.00	3	1.93	2.50	2.06	3.00	Pump	Press.	Gear	Opt.				600	35¼	22	34¼	No	3	Wisconsin SU
Cast	10.50	64.0	A.St.	2.12	3	2.12	2.75	2.25	4.00	Pump	Press.	Gear	Opt.				575	40¾	20½	33½	No	3	Wisconsin NU
Cast	12.50	119.0	A.St.	2.25	3	2.25	3.00	2.37	4.00	Pump	Press.	Gear	Opt.				890	48¾	23¾	36¼	No	3	Wisconsin RAU
Cast	12.50	119.0	A.St.	2.25	3	2.25	3.00	2.37	4.00	Pump	Press.	Gear	Opt.				900	48¾	23¾	36¼	No	3	Wisconsin RBU
Cast	14.00	144.0	A.St.	2.37	3	2.37	4.00	2.37	6.00	Pump	Press	Gear	Opt.				900	51¾	28½	37¾	No	.....	Wisconsin M
Cast	14.00	144.0	C.St.	2.62	4	2.62	3.87	2.62	5.75	Pump	Press	Gear	Opt.				1700	71	28½	40	No	.....	Wisconsin P

For abbreviations see pages 428-429.

Clutch Specifications

Shaft Material (S.A.E. Steel No.)	Disk or Plate Material	Number of Springs	PRESSURE (Lbs.): Spring Total	On Friction Face Total	Per Sq. Ins. of Friction Surface (Apprx.)	At Thrust Bearing to Disengage	Min. Travel of Throwout Bearing to Complete Disengagement (Ins.)	Type of Throwout Bearing	DRIVE TAKEN BY: From Flywheel to Driving Members	From Driving Members to Drive Shaft	Means of Adjustment	Multiplying Lever or Toggles Used?	Is Clutch Brake Provided?	Sold With Gearset?	Weight Complete (Lbs.)	MAKE AND MODEL
.....	C.R.Steel	3	450	450	17.8	240	.16	Annular Ball	Gear Teeth	Gear Teeth	Spring Bolts	No	Yes	Opt	.....	Ansted
.....	.....	.....	.....	.....	25.0	.....	1.25	Plain	Keys	Keys	.....	Yes	No	No	40.0	Bierman
None	None	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
None	Cast Iron	1	250	2000	77.0	300	.50	Ball Thrust	Pins	Splines	Screws on C.P.	Yes	No	No	20.0	Borg & Beck M
3140	Cast Iron	1	200	1600	40.0	.....	.44	Ball Thrust	Pins	Splines	Screws on C.P.	Yes	Yes	No	24.0	Borg & Beck DX
3140	Cast Iron	1	300	2400	42.0	360	.50	Ball Thrust	Pins	Splines	Screws on C.P.	Yes	Yes	No	31.0	Borg & Beck GX
3140	Cast Iron	1	300	2400	34.6	360	.50	Ball Thrust	Pins	Splines	Screws on C.P.	Yes	Yes	No	33.0	Borg & Beck RGX
3140	Cast Iron	1	400	3200	31.0	450	.62	Ball Thrust	Pins	Splines	Screws on C.P.	Yes	Yes	No	60.0	Borg & Beck FJX
3	.....	2	330	330	13.0	.....	.18	Annular Ball	Gear Teeth	.....	Spring Bolts	.....	Yes	Opt	.....	Brown Lipe 20
4	.....	2	330	330	13.0	.....	.18	Annular Ball	Gear Teeth	.....	.....	Yes	Yes	Opt	.....	Brown Lipe 30
10	.....	2	330	330	13.0	.....	.....	Annular Ball	Gear Teeth	.....	Spring Bolts	.....	Yes	Opt	.....	Brown Lipe 35
6	.....	2	330	330	13.0	.....	.25	Annular Ball	Gear Teeth	.....	Spring Bolts	.....	Yes	Opt	.....	Brown Lipe 50
7	.....	2	330	330	13.0	.....	.....	Annular Ball	Gear Teeth	.....	Spring Bolts	.....	Yes	Opt	.....	Brown Lipe 55
8	.....	2	330	330	13.0	.....	.....	Annular Ball	Gear Teeth	.....	Spring Bolts	.....	Yes	Opt	.....	Brown Lipe 60
1	.....	1	.....	.....	.....	.....	.....	Annular Ball	Pins	Splines	Threaded Ring	Yes	.....	Opt	.....	Brown Lipe A
2	.....	3	150	1300	32.5	150	.25	Ball Thrust	Splines	.....	Threaded Ring	Yes	Yes	No	25.0	Chicago
Var	.....	3	375	Var	Var	Var	.25	Annular Ball	Pins	Pins	Spring Bolts	No	Yes	Var	Var	Detlaff JA-2 to 4
Var	.....	3	375	Var	Var	Var	.25	Ball Thrust	Gear Teeth	Gear Teeth	None	No	No	Var	Var	Detlaff M-E to 7
Var	.....	3	375	Var	Var	Var	.25	Annular Ball	Gear Teeth	Gear Teeth	Spring Bolts	No	Yes	Var	Var	Detlaff H-4 to 9
6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
None	Steel	1	480	2400	46.0	480	.50	Plain	Gear Teeth	Splines	Threaded Ring	Yes	No	.....	107.0	Hillard XD-12
4	Steel	1	375	1875	31.0	375	.50	Annular Ball	Gear Teeth	Splines	Screws on C.P.	Yes	Yes	.....	125.0	Hillard S-8
3	Steel	1	375	1875	31.0	375	.38	Annular Ball	Gear Teeth	Splines	Screws on C.P.	Yes	Yes	.....	110.0	Hillard S-6
3	Steel	1	375	1875	31.0	375	.38	Annular Ball	Gear Teeth	Splines	Screws on C.P.	Yes	Yes	.....	110.0	Hillard S-10
2	Steel	1	380	1900	36.0	380	.38	Annular Ball	Gear Teeth	Optional	Screws on C.P.	Yes	Yes	.....	55.0	Hillard XDA
2	Steel	1	380	1900	36.0	380	.38	Annular Ball	Gear Teeth	Optional	Screws on C.P.	Yes	Yes	.....	55.0	Hillard XDG
1	Semi Steel	1	190	2380	95.2	190	.25	Ball Thrust	Pins	Splines	Threaded Ring	Yes	No	No	18.0	Hoosier K1-8
1	Semi Steel	1	235	1880	47.5	235	.25	Ball Thrust	Pins	Splines	Threaded Ring	Yes	Opt	No	28.0	Hoosier K2-10
2	Steel	1	235	2350	75.5	235	.25	Ball Thrust	Pins	Splines	Threaded Ring	Yes	Yes	No	32.0	Hoosier K20-10
2	.....	6	600	.....	.....	.....	.....	Ball Thrust	Pins	Splines	Nuts on Lever F	Yes	.....	No	.....	Long
Var	2330	Bro.&Stl.	1	Var	Var	Var	Var	.62	Annular Ball	Splines	Splines	Threaded Ring	No	Yes	No	Var	M.&E. (Hele-Shaw) 5-10
1	2330	C.R.Steel	6	1200	1200	21.0	150	.50	Ball Thrust	Pins	Splines	Screws on C.P.	Yes	No	No	.....	M. & E. 12-SP
2	2330	C.R.Steel	6	900	900	15.8	110	.50	Ball Thrust	Pins	Splines	Screws on C.P.	Yes	No	No	.....	M. & E. 12-DP
1	2330	C.R.Steel	6	1200	1200	29.0	150	.50	Ball Thrust	Pins	Splines	Screws on C.P.	Yes	No	No	19.0	M. & E. 10-SP
2	2330	C.R.Steel	6	900	900	22.0	110	.50	Ball Thrust	Pins	Splines	Screws on C.P.	Yes	No	No	19.0	M. & E. 10-DP
2	2330	C.R.Steel	1	Var	Var	Var	Var	.50	Ball Thrust	Pins	Gear Teeth	Screws on C.P.	Yes	Yes	No	.....	M. & E. 10
3	2330	C.R.Steel	1	Var	Var	Var	Var	.50	Ball Thrust	Pins	Gear Teeth	Screws on C.P.	Yes	Yes	No	.....	M. & E. 12
1	None	C.R.Steel	6	1100	1100	42.0	170	.50	Ball Thrust	Pins	Keys	Screws on C.P.	Yes	No	No	16.0	M. & E. 8-SP
2	None	C.R.Steel	6	750	750	29.0	115	.50	Ball Thrust	Pins	Keys	Screws on C.P.	Yes	No	No	16.0	M. & E. 8-DP
.....	.....	Cast Iron	1	225	1345	.....	.....	.50	Ball Thrust	Keys	.....	None	Yes	Yes	Opt	40.0	Positive
2	None	.....	.....	.....	.....	.....	.....	.....	Ball Thrust	Pins	Splines	Pins on C.P.	Yes	.....	No	.....	Twin Disc

C. R. Steel—Cold Rolled Steel **Bro. & Stl.**—Bronze & Steel **Screws on C. P.**—Screws on Cover Plate **Pins on C. P.**—Pins on Cover Plate **Nuts on Lever F**—Nuts on Lever Fulcrum **Opt**—Optional

American Stock

REAR AXLES

MAKE AND MODEL	Designed for	Maximum Load on Spring Pads (lbs.)	Maximum Drive Shaft Torque (lbs. ft.)	Type	FINAL DRIVE: Type	FINAL DRIVE: Gear Material (S.A.E. Steel No.)	GEAR* RATIOS: Standard	GEAR* RATIOS: Optional	AXLE SHAFTS: Diameter at Differential End (Ins.)	AXLE SHAFTS: Diameter at Wheel End (Ins.)	AXLE SHAFTS: Material (S.A.E. Steel No.)	RANGE OF SPRING CENTERS: Maximum (Ins.)	RANGE OF SPRING CENTERS: Minimum (Ins.)	Torque Taken By	Provision for Radius Rods?	Designed for Hotchkiss Drive?	Type of Differential	BRAKES: SERVICE: Type	SERVICE: Diameter of Drum (Ins.)	SERVICE: Width of Drum (Ins.)	EMERGENCY: Type	EMERGENCY: Diameter of Drum (Ins.)	EMERGENCY: Width of Drum (Ins.)
Atlas LC-8	T.B.	8000	190	F.Fl.	I.G.	2315	6.60	6.00	1.50	1.50	3340	51	47	Spr.	Yes.	Yes.	B.	Int.	21.00	3.00			
Atlas LC-12	Buses	12000	190	F.Fl.	I.G.	2315	7.11	6.40	1.50	1.50	3340	53	51	Spr.	Yes.	Yes.	B.	Int.	24.00	3.00			
Clark B-300	Trucks	3000	500	½Fl.	S.B.	2315	5.66	5.10	1.50	1.97	3140	40	38½	Spr.		Yes.	B.	Ext.	16.00	2.25	Int.	15.62	1.50
Clark AW	Trucks	3600	460	F.Fl.	I.G.	1020	6.75	6.08	1.12	1.37		40	39½	Spr.	No.	Yes.	B.	Ext.	14.00	2.50			
Clark B-360	Trucks	3600	520	½Fl.	S.B.	2315	6.28	5.50	1.62	1.97	3140	40	38½	Spr.	No.	Yes.	B.	Ext.	16.00	2.50	Int.	15.62	1.50
Clark 1-D	Trucks	4200	541	F.Fl.	I.G.	2320	6.80	9.00	1.12	1.37	3140	39½	38½	Spr.	No.	Yes.	B.	Ext.	16.00	2.50	Int.	15.62	1.50
Clark B-650	Trucks	6500	933	½Fl.	S.B.	2315	7.00	8.00	2.06	2.62	3140	40	38½	Spr.	No.	Yes.	B.	Int.	16.00	3.00	Int.		
Clark 2-D	T.B.	6500	933	F.Fl.	I.G.	2320	7.04	8.00	1.50	1.75	3140	39	38½	Spr.	No.	Yes.	B.	Ext.	16.00	3.00	Int.	16.00	2.50
Clark 3-D	T.B.	11000	1410	F.Fl.	I.G.	2320	8.00	7.04	1.50	1.97	3140	43	40	Spr.	No.	Yes.	B.	Ext.	19.87	3.00	Int.	19.12	2.50
Clark 5-D	Trucks	18000	2080	F.Fl.	I.G.	2320	12.50	11.17	1.75	1.97	3140	40½	40	Spr.	No.	Yes.	B.	Int.	22.25	3.00			
Columbia 11000	Cars	2000		½Fl.	S.B.	2320	4.63	5.10	1.25	1.50	2340			Spr.	No.	Yes.	B.	Ext.	14.00	2.50	Int.	14.00	2.50
Columbia 31000	Cars	2500		½Fl.	S.B.	2320	5.09	4.70	1.31	1.75	2340			Spr.		Yes.	B.	Ext.			Int.		
Columbia 50000	Cars	3600		¾Fl.	S.B.	2320	5.09	4.08	1.44	1.44	2340			Opt.	No.		B.	Ext.	16.00	3.00	Int.	16.00	3.00
Columbia 52000	Trucks	3600		¾Fl.	S.B.	2320	5.12		1.44	1.44	2340	38	40	Spr.		Yes.	B.	Ext.	16.00	3.00	Int.	16.00	3.00
Eaton 31	Cars	1900		½Fl.	S.B.	2320	4.90	4.45	1.18	1.56	3140	42	37	S&Ta	No.	Yes.	B.	Ext.	14.50	2.00	Int.	14.12	1.75
Eaton 35	Cars	2100		½Fl.	S.B.		4.90	4.45	1.19	1.56		42	37	S&Ta.	No.	Yes.	B.	Ext.	14.50	2.25	Int.	14.12	1.75
Eaton 41	Cars	2200		½Fl.	S.B.	2320	4.90	4.45	1.19	1.75	3140	47	32	S&Ta.	No.	Yes.	B.	Ext.	16.00	2.50	Int.	15.62	2.00
Eaton 55	Cars	2500		½Fl.	S.B.	2320	4.90	4.45	1.34	1.87	3140	40	37	S&Ta.	No.	Yes.	B.	Ext.	16.00	2.50	Int.	15.62	2.00
Eaton 1000	Trucks	4300		½Fl.	S.B.	2320	5.62	5.12	1.50	2.00	3140	40½	37½	Spr.	No.	Yes.	B.	Int.	15.62	1.75	Int.		1.75
Eaton 604	Trucks	8500		½Fl.	W		6.50	10.50	2.00	2.75	2335	39¾	36	Spr.	No.	Yes.	B.	Int.	18.00	2.25	Int.		2.25
Flint 71	T.B.	4000	120	F.Fl.	S.B.		4.90	5.50	1.50	1.50		36	39	Spr.	Yes.	Yes.	B.	Int.	14.00	2.75	Int.	14.00	2.75
Iron Mountain B-1	Trucks	3500	475	½Fl.	W	Bro.	6.20	7.25	1.75	1.75	3135	40	38	Spr.	No.	Yes.	B.	Int.	13.62	4.62	Int.	13.62	4.62
Iron Mountain B-10	Trucks	4400	575	½Fl.	W	Bro.	6.20	7.75	1.75	2.00	3135	39½	38½	Spr.	No.	Yes.	B.	Int.	15.62	4.75	Int.	15.62	4.75
Iron Mountain B-15	Trucks	5800	640	½Fl.	W	Bro.	7.75	8.66	2.00	2.37	3135	39½	38	Spr.	No.	Yes.	B.	Int.	15.62	4.75	Int.	15.62	4.75
Iron Mountain A25	Trucks	9000	934	F.Fl.	W	Bro.	7.75	8.75	2.00	2.00	3135	39½	38½	Spr.	No.	Yes.	B.	Int.	18.00	5.62	Int.	18.00	5.62
L-M 7150	Trucks	5000	500	½Fl.	D.R.	3120	7.40	6.70	1.75	2.31	3240	40	38	Spr.	No.	Yes.	B.	Int.	16.00	2.00	Int.	16.00	2.00
L-M 7250	Trucks	8000	1000	½Fl.	D.R.		8.44	7.60	2.00	2.56	3240	40	38	Spr.	No.	Yes.	B.	Int.	18.00	2.25	Int.	18.00	2.25
L-M 7500	Trucks	15000	1500	½Fl.	T.R.		11.28	9.15	3.00	3.75	3240	44	42	Spr.	Yes.	Yes.	B.	Int.	24.00	2.50	Int.	24.00	2.50
National A	Cars			½Fl.	W		4.75	7.00	1.75	1.75	3135	41½	37	Spr.	No.	Yes.	B.	Int.	14.00	4.25	Int.	14.00	4.25
Parker 2000	Trucks	3500		¾Fl.	St.B.		5.77	6.50	1.62			40	37	Spr.	No.	Yes.	B.	Int.			Ext.†		
Parker 20	Trucks	4000	365	F.Fl.	I.G.		7.25	8.70				39	37	Spr.	No.	Yes.	B.	Int.			Ext.†		
Parker 30	Trucks	5000	408	F.Fl.	I.G.		7.25	8.70				39	37	Spr.	No.	Yes.	B.	Int.			Ext.†		
Parker 50	Trucks	7500	568	F.Fl.	I.G.		8.25	9.30				40	38	Spr.	No.	Yes.	B.	Int.			Ext.†		
Parker 70	Trucks	11000	662	F.Fl.	I.G.		10.50	11.40				42	40	Spr.	No.	Yes.	B.	Int.			Ext.†		
Parker 100	Trucks	15000	790	F.Fl.	I.G.		11.80	12.70				42	40	Spr.	No.	Yes.	B.	Int.			Ext.†		
Peru	Cars	1600	90	F.Fl.	S.B.		4.22	4.72	1.12	1.12		41	35	Opt.	No.	Yes.	B.	Ext.	12.31	2.56	Int.	12.00	2.56
Peru 3700	Cars	2200	130	½Fl.	S.B.		4.22	4.80	1.25	1.50	3140	41	38	Spr.	No.	Yes.	B.	Ext.	14.37	2.62	Int.	14.00	2.62
Russel 28&25S	Trucks	3400	350	Dd.	I.G.	2320	6.10	8.20			3135	38	38½	T.T.	No.	Yes.	B.	Int.	14.00		Ext.	14.00	
Russel 33&30S	Trucks	4500	417	Dd.	I.G.	2320	7.00	8.20			3135	38	38½	T.T.	No.	Yes.	B.	Int.	15.50		Ext.	15.50	
Russel 45S	Trucks	5700	625	Dd.	I.G.	2320	6.60				3135	37¾	38¼	T.T.	No.	Yes.	B.	Int.	16.50		Ext.	16.50	
Russel 20B	Buses	6000	833	Dd.	I.G.	2320	7.00				3135	38½	39	T.T.	No.	Yes.	B.	Int.	18.00		Ext.	18.00	
Russel 49	Trucks	6250	625	Dd.	I.G.	2320	8.40	7.40			3135	37¾	38¼	T.T.	No.	Yes.	B.	Int.	15.00		Ext.	15.00	
Russel 30B	Buses	7500	1000	Dd.	I.G.	2320	7.10				3135	38½	39	T.T.	No.	Yes.	B.	Int.	18.00		Ext.	18.00	
Russel 66	Trucks	8000	750	Dd.	I.G.	2320	8.80	7.80			3135	39	38½	T.T.	No.	Yes.	B.	Int.	16.50		Ext.	16.50	
Russel 65S	Trucks	8000	833	Dd.	I.G.	2320	7.00				3135	38½	39	T.T.	No.	Yes.	B.	Int.	18.00		Ext.	18.00	
Russel 82	Trucks	10000	1000	Dd.	I.G.	2320	9.00	8.50			3135	38½	39	T.T.	No.	Yes.	B.	Int.	18.00		Ext.	18.00	
Russel 50B	Buses	12000	1333	Dd.	I.G.	2320	9.10				3135	40	40½	T.T.	No.	Yes.	B.	Int.	19.75	6.00	Ext.	19.75	6.00
Salisbury G	Cars	1650		½Fl.	S.B.		4.75					34¾	41	Spr.		Yes.	B.	Ext.	12.00	2.00	Int.	12.00	2.00
Salisbury C	Cars	2100		½Fl.	S.B.		4.50					41¾	34¾	Spr.		Yes.	B.	Ext.	12.00	2.00	Int.	12.00	2.00
Salisbury A	Cars	2400		¾Fl.	S.B.		4.50	5.00				41¾	34¾	Opt.		Yes.	B.	Ext.	Opt.	2.00	Int.	Opt.	2.00
Salisbury B	Cars	3000		¾Fl.	S.B.		4.55	5.71				35	41½	Spr.		Yes.	B.	Ext.	14.00	2.00	Int.	14.00	2.00
Salisbury D	Trucks	3000		¾Fl.	S.B.		5.85					38	41¼	Spr.		Yes.	B.	Ext.	16.00	2.00	Int.	16.00	2.00
Sheldon W500	Trucks			½Fl.	W	Bro.	4.50	14.67	1.37	1.58	2340	42	35	Spr.	No.	Yes.	B.	Int.	12.00	4.00	Int.	12.00	4.00
Sheldon W1001	Trucks	2670		½Fl.	W	Bro.	5.50	9.67	1.37	1.97	2340	40	38	Spr.	No.	Yes.	B.	Int.	14.00	5.00	Int.	14.00	5.00
Sheldon W1501	Trucks	3650		½Fl.	W	Bro.	6.50	8.75	1.50	2.17	2340	39	35	Spr.	No.	Yes.	B.	Int.	16.00	5.50		16.00	5.50
Sheldon W103	Trucks	5500		½Fl.	W	Bro.	7.75	10.67	1.69	2.37	2340	41¼	32	Spr.	No.	Yes.	B.	Int.	18.00	6.00	Int.	18.00	6.00
Sheldon W21	Trucks	6260		½Fl.	W	Bro.	7.75	9.50	1.87	2.75	2340	41	32	Spr.	No.	Yes.	B.	Int.	18.00	6.00	Int.	18.00	6.00
Sheldon W31	Trucks	12500		½Fl.	W	Bro.	8.75	13.00	2.25	3.34		44	38	Spr.	No.	Yes.	B.	Int.	20.00	8.12	Int.	20.00	8.12
Sheldon W51	Trucks	1460		½Fl.	W	Bro.	8.75	13.00	2.44	3.75	2340	46	43	Spr.	No.	Yes.	B.	Int.	24.00	8.75	Int.	24.00	8.75
Thomson AWM	Trucks	4000	102	F.Fl.	W	Bro.	6.75	7.75	1.62	1.62	3140	40	38	Spr.	No.	Yes.	B.	Int.	18.00	4.87	Int.	18.00	4.87
Thomson BWM	Trucks	8500	165	F.Fl.	W	Bro.	8.25	9.66	1.87	1.87	3140	39¾	38¾	Spr.	No.	Yes.	B.	Int.	18.00	6.00	Int.	18.00	6.00
Thomson DWM	Trucks	1200	200	F.Fl.	W	Bro.	10.33	12.00	2.19	2.19	3140	43	39½	Spr.	No.	Yes.	B.	Int.	20.00	7.06	Int.	20.00	7.06
Timken 0-502	Cars	1260		½Fl.	S.B.	Spec.	4.87		1.10	.62	Spec.	42	24	Spr.	No.	Yes.	B.	Ext.			Int.		
Timken 5014	Cars	1580		½Fl.	S.B.	6115	5.10	4.80	1.22	.87	3140	40¼	34	Spr.	No.	Yes.	B.	Ext.	14.35	2.75	Int.	14.00	2.75
Timken 5140	Cars	1800		½Fl.	S.B.	3120	3.73	5.09	1.35	.87	3140	39½	33½	Spr.	No.	Yes.	B.	Ext.	15.51	2.62	Int.	15.17	2.62
Timken 5512	Cars	2400		½Fl.	S.B.	Spec.	4.45	6.11	1.53	1.00	3140	41¼	37	T.A.	No.	No.	B.	Ext.	16.01	3.48	Int.	15.67	3.48
Timken 5712	Cars	2400		F.Fl.	S.B.	Spec.	3.78	6.11	1.53	4.54	3140	38½	37½	T.A.	Yes.	No.	B.	Ext.	16.01	3.48	Int.	15.57	3.48
Timken 5310	Cars	2570		½Fl.	S.B.	3120	3.53	6.50	1.39	.87	3240	41	35	T.A. Spr.	No.	Yes.	B.	Ext.	15.51	3.43	Int.	15.17	3.43
Timken 5311	Trucks	3200		½Fl.	S.B.	Spec.	4.60	4.45	1.39	.87	3240	40½	36	Spr.	No.	Yes.	B.	Int.	15.05	3.50	Int.	15.05	3.50
Timken 6250	Trucks	3600		½Fl.	W	3120	5.00	6.75		1.00	3140	39		Spr.	No.	Yes.	B.	Int.	15.00	3.50	Int.	15.00	3.50
Timken 6352	Trucks	4275		½Fl.	W		5.06	8.25		1.12	3140	39		Spr.	No.	Yes.	B.	Int.	15.00	4.12	Int.	15.00	4.12
Timken 6460	Trucks	6400		½Fl.	W	3120	6.00	9.25	1.93	1.25	3140	39½	39	Spr.	No.	Yes.	B.	Int.	16.00	4.56	Int.	16.00	4.56
Timken 6560	Trucks	7900		F.Fl.	W	3120	6.00	10.25	1.93		3240	39¾	37½	Spr.	Yes.	Yes.	B.	Int.	18.00	5.68	Int.	18.00	5.68
Timken 6511	Buses	10000		F.Fl.	W	3120	5.25	7.25	1.93	7.00	3240	53½	49	Spr.	Yes.	Yes.	B.	Int.	21.00	5.75	Int.	21.00	5.75
Timken 6666	Trucks	11200		F.Fl.	W	3120	5.00	12.00	2.25	2.25	3240	44¾		Spr.	Yes.	Yes.	B.	Int.	21.00	5.75	Int.	21.00	5.75
Timken 6760	Trucks	15000		F.Fl.	W	3120	11.66		2.65	2.65	3240	46½	44	Spr.	Yes.	Yes.	B.	Int.	24.00	5.87	Int.	24.00	5.87
Torbensen E	Trucks	1300		Dd.	I.G.	2315	10.20		1.50		3140	44	42	Spr.	No.	Yes.	B.	Ext.‡	19.00		Ext.‡	10.00	4.75

ABBREVIATIONS:

DESIGNED FOR:

*—In certain cases the figures in these columns represent the extreme ratios available.
T—Trucks
B—Buses
Tr—Tractors
C—Cars

TYPE:
F.Fl—Full Floating
½ Fl—½ Floating
¾ Fl—¾ Floating
Dd—Dead

FINAL DRIVE:
I.G.—Internal Gear
S.B.—Spiral Bevel
St. B.—Straight Bevel
W—Worm
D.R.—Double Reduction

Spec—Special
Bro—Bronze
T. R.—Triple Reduction

TORQUE TAKEN BY:
Spr—Springs
T.T.—Torque Tube

Axle Specifications

REAR AXLES

TYPE OF BEARINGS					ROAD CLEARANCE			
At Differential	At Wheels	On Pinion Shaft	Axle Housing Material (S.A.E.)	Axle Trussed?	Minimum (Ins.)	Tire Size (Ins.)	Tread (Ins.)	Weight (Complete Without Wheels) (Lbs.)
Ball	B or R.	Ball	Mal-C	No.	8	36	72	800
Ball	Ball	Ball	Mal-I.	No.	5½	34	73	950
Roller	Roller	Ball	St-C.	No.	10	34	56	329
Roller	B—R.	B—R.	Mal-I.	No.	12½	34	56	384
Roller	Ball	Ball		No.	9½	34	56	400
Roller	B—R.	B—R.	St-C.	No.	12½	34	56	509
Roller	Roller	Ball	St-C.	No.	11	40	58	628
Roller	Roller	B—R.	St-C.	No.	10	36	58	750
Roller	Roller	Roller		No.	12	40	70	731
Roller	B—R.	B or R.	St-C.	No.	12	40	67	1279
Roller	Roller	Roller	P-St.	No.	11	34	56	196
Roller	Roller	Roller	P-St.	No.	10½	34	56	245
Roller	Roller	Roller	P-St.	No.	10	34	56	277
Roller	Roller	Roller	P-St.	No.	10	34	56	277
Roller	Roller	Roller	1020	No.	10¼	34	56	285
Roller	Roller	Roller	1020	No.	10¼	34	56	305
Roller	Roller	Roller	1020	No.	10¼	34	56	330
Roller	Roller	Roller	1020	No.	7½	32	56	385
Roller	Roller	Roller	1020	No.	9¾	35	56⅜	405
Roller	Roller	Roller	1020	No.	10½	36	61	.....
BorR	.....	Ball	1035	No.	.....	35	56	325
Ball	Ball	Ball	Mal-I.	No.	10¾	34	56	480
Ball	Ball	Ball	St-C.	No.	11½	36	56	500
Ball	Ball	Ball	St-C.	No.	11	36	58	600
Ball	Roller	Ball	St-C.	No.	10¼	36	59	900
Roller	Roller	Roller	Mal-I.	No.	11	34	59	750
Roller	Roller	Roller	Mal-I.	No.	11½	36	60	950
Ball	Ball	Ball	Mal-I.	No.	12¾	40	70¾	1800
Roller	Roller	Roller	.....	No.	10	32	56	330
Ball	Ball	Ball	1020	No.	9¼	36	56	360
Ball	B—R	Ball	.....	No.	12	34	56	400
Ball	B—R	Ball	.....	No.	13	36	56	424
Ball	B—R	Ball	.....	No.	12½	36	60½	675
Ball	B—R	Ball	.....	No.	12¼	36	66	950
Ball	B—R	Ball	.....	No.	13½	40	66	1200
Roller	Roller	Ball	Mal-I.	Yes.	9¾	32	56	213
Roller	Roller	Roller	P-St.	No.	9¼	32	56	235
B & R	Roller	Ball	St-C.	No.	.....	.....	56	433
B & R	Roller	Ball	St-C.	No.	.....	.....	56	475
B & R	Roller	Ball	St-C.	No.	.....	.....	58½	602
B & R	Roller	Ball	St-C.	No.	.....	.....	Opt.	.....
B & R	Roller	Ball	St-C.	No.	.....	.....	58½	554
B & R	Roller	Ball	St-C.	No.	.....	.....	Opt.	813
B & R	Roller	Ball	St-C.	No.	.....	.....	60	675
B & R	Roller	Ball	St-C.	No.	.....	.....	60	.....
B & R	Roller	Ball	St-C.	No.	.....	.....	60⅜	813
Roller	Roller	Ball	St-C.	No.	.....	.....	Opt.	.....
Ball	Ball	Ball	P-St.	Yes.	.....	.....	56	151
Ball	Roller	Ball	P-St.	Yes.	.....	.....	56	235
Roller	Ball	Ball	P-St.	Yes.	.....	.....	56	304
Roller	Ball	Ball	P-St.	Yes.	.....	.....	56	361
Roller	Ball	Ball	P-St.	Yes.	.....	.....	56	370
Ball	B or R.	Ball	Mal-I.	No.	13¼	36	56	268
Ball	B—R	Ball	Mal-I.	No.	12¼	36	56	460
Ball	B or R.	Ball	Mal-I.	No.	11	36	57	621
Ball	B or R.	Ball	Mal-I.	No.	10¾	36	Opt.	813
Ball	B or R.	Ball	Mal-I.	No.	9¾	36	60	941
Ball	B or R.	Ball	St.	No.	11	40	69¾	1436
Ball	B—R	Ball	St.	No.	10½	40	70¾	2064
Ball	Ball	Ball	Mal-I.	Yes.	.....	.....	56	610
Ball	Ball	Ball	Mal-I.	Yes.	.....	.....	59½	821
Ball	Ball	Ball	St-C.	Yes.	.....	.....	68	1434
Roller	Roller	Roller	1010	No.	10¼	.....	56	109
Roller	Roller	Roller	1010	No.	.....	.....	56	230
Roller	Roller	Roller	1010	No.	.....	.....	56	217
Roller	Roller	Roller	1010	No.	.....	.....	56	360
Roller	Roller	Roller	1010	No.	.....	.....	56	410
Roller	Roller	Roller	1010	No.	.....	.....	56	370
Roller	Roller	Roller	1010	No.	.....	.....	56	360
Roller	Roller	Roller	1010	No.	11¾	23¾	56	378
Roller	Roller	Roller	1010	No.	.....	.....	56	477
Roller	Roller	Roller	1010	No.	.....	.....	58	659
Roller	Roller	Roller	1010	No.	.....	.....	58½	857
Roller	Roller	Roller	1010	No.	.....	.....	74	800
Roller	Roller	Roller	1010	No.	.....	.....	65¼	1298
Roller	Roller	Roller	1010	No.	.....	.....	69½	1772
Roller	Roller	Roller	Mal-I.	No.	12¼	36	67½	1100

FRONT AXLES

Model	Maximum Load on Spring Pads (Lbs.)	AXLE CENTER SECTION: Type	AXLE CENTER SECTION: Mtrl. (S.A.E. Steel No.)	TYPE OF BEARINGS: At Wheels	TYPE OF BEARINGS: At Spindle Thrust	Steering Knuckle Mtrl. (S.A.E. Steel No.)	Inclination of Steering Pivots (deg.)	Tie Rod End	Spring Mounting Location	ROAD CLEARANCE: Minimum (Ins.)	ROAD CLEARANCE: Tire Size (Ins.)	ROAD CLEARANCE: Tread (Ins.)	Weight (Complete Without Wheels) (Lbs.)	MAKE AND MODEL
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Atlas.....LC-8
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Atlas.....LC-12
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clark.....B-300
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clark.....AW
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clark.....B-360
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clark.....1-D
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clark.....B-650
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clark.....2-D
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clark.....3-D
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clark.....5-D
1100	1250	I.	1035	Roller.	Ball..	1035	2	Opt..	A.A..	10¾	34	56	55	Columbia.....
3100	1600	I.	1035	Roller.	Ball..	1035	2	Ball..	A.A..	11¼	34	56	61	Columbia.....
5000	2000	I.	1035	Roller.	Ball..	1035	2	Opt..	A.A..	10¼	34	56	71	Columbia.....
5000	2000	I.	1035	Roller.	Ball..	1035	2	Opt..	A.A..	11¼	34	56	71	Columbia.....
7	1400	I.	Steel.	Roller.	Plain.	3140	2	Ball..	A.A..	9½	34	56	79	Eaton.....
7	1400	I.	Steel.	Roller.	Plain.	3140	2	Ball..	A.A..	9½	34	56	79	Eaton.....
21F	2000	I.	1035	Roller.	Roller.	2335	2	Y&P..	A.A..	8⅝	34	56	114	Eaton.....
21F	2000	I.	1035	Roller.	Ball..	2335	2	Y&P..	A.A..	8⅝	32	56	114	Eaton.....
F3070	2000	I.	1035	Roller.	Plain.	2335	2	Y&P..	A.A..	9	34	56	120	Eaton.....
504	3500	I.	1035	Roller.	Plain.	2335	2	Y&P..	A.A..	11	36	58	.....	Eaton.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Flint.....71
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Iron Mountain....B-1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Iron Mountain....B-10
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Iron Mountain....B-15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Iron Mountain....A25
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L-M.....7150
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L-M.....7250
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L-M.....7500
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	National.....A
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Parker.....2000
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Parker.....20
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Parker.....30
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Parker.....50
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Parker.....70
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Parker.....100
2810	900	I.	1035	Roller.	Plain.	1035	1¾	Y&P..	A.A..	12¼	32	56	64	Peru.....
3435	1100	I.	1035	Roller.	Plain.	1035	.....	Y&P..	A.A..	9¾	32	56	74½	Peru.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Russel.....28&25S
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Russel.....33&30S
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Russel.....45S
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Russel.....20B
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Russel.....49
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Russel.....30B
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Russel.....66
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Russel.....65S
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Russel.....82
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Russel.....50B
.....	.....	.....	.....	Ball..	Plain.	.....	.....	Y&P..	A.A..	.....	.....	56	62	Salisbury.....G
.....	.....	.....	.....	Roller.	Plain.	.....	.....	Opt..	A.A..	.....	.....	56	73	Salisbury.....C
.....	.....	.....	.....	Roller.	Plain.	.....	.....	Opt..	A.A..	.....	.....	56	89¼	Salisbury.....A
.....	.....	.....	.....	Roller.	Plain.	.....	.....	Opt..	A.A..	.....	.....	56	106	Salisbury.....B
.....	.....	.....	.....	Roller.	Plain.	.....	.....	Opt..	A.A..	.....	.....	56	106	Salisbury.....D
D260	1100	I.	1030	Roller.	Plain.	3135	1½	Y&P..	A.A..	.....	.....	56	90	Sheldon.....
D260	1100	I.	1030	Roller.	Plain.	3135	1½	Y&P..	A.A..	.....	.....	56	90	Sheldon.....
33FA	1550	I.	1030	Roller.	Plain.	3135	1½	Y&P..	A.A..	.....	.....	56	139	Sheldon.....
D343	2450	I.	1030	Roller.	Plain.	3135	1½	Y&P..	A.A..	.....	.....	56	193	Sheldon.....
D370	3190	I.	1030	Roller.	Ball..	3135	1½	Y&P..	A.A..	.....	.....	Opt.	224	Sheldon.....
4FA20	4460	I.	1030	Roller.	Ball..	3135	1½	Y&P..	A.A..	.....	.....	Opt.	320	Sheldon.....
5FA30	5890	I.	1030	Roller.	Ball..	3135	1½	Y&P..	A.A..	.....	.....	Opt.	520	Sheldon.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomson.....AWM
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomson.....BWM
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomson.....DWM
0-102	1250	I.	1035	Roller.	Plain.	Spec.	2	Y&P..	A.A..	13¾	.....	56	33	Timken.....
1010	1700	I.	1035	Roller.	Ball..	3130	2	Y&P..	A.A..	.....	.....	56	70	Timken.....
1160	1950	I.	1035	Roller.	.....	3130	2	Ball..	A.A..	.....	.....	56	64	Timken.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Timken.....
1320	2650	I.	1035	Roller.	Roller.	3130	2	Y&P..	A.A.	.....	.....	56	126	Timken.....
1220	1860	I.	1035	Roller.	Roller.	5130	2	Y&P..	A.A.	.....	.....	56	100	Timken.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Timken.....5311
1250	1950	I.	1035	Roller.	.....	3130	2	Y&P..	A.A.	.....	.....	56	97	Timken.....
1452	2300	I.	1035	Roller.	.....	5130	2	Y&P..	A.A.	.....	.....	56	167	Timken.....
1520	2800	I.	1035	Roller.	.....	5130	2	Y&P..	A.A.	.....	.....	58	181	Timken.....
1542-B	3400	I.	1035	Roller.	Roller.	5130	1½	Y&P..	A.A.	.....	.....	58½	198	Timken.....
1550	4100	I.	1035	Roller.	Roller.	5130	2	Y&P..	A.A.	.....	.....	68	235	Timken.....
1630-B	4750	I.	1035	Roller.	Roller.	5130	1½	Y&P..	A.A.	.....	.....	66½	263	Timken.....
1730-B	6600	I.	1035	Roller.	Roller.	5130	1½	Y&P..	A.A.	.....	.....	68½	416	Timken.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Torbensen.....E

T.A.—Torque Arm
S&TA—Springs and Torque Arm

TYPE OF DIFFERENTIAL:
B—Bevel

BRAKES:
Int—Internal
Ext—External
S&T—Springs and Torque Tube
†—Extra Equipment
‡—On Propeller Shaft
**—Mechanical Front Wheel Brakes Fitted

BEARINGS:
P—Plain
B—R—Ball—Roller

AXLE HOUSING MATERIAL:
P-St—Pressed Steel
Mal-I—Malleable Iron
St-C—Steel Casting

TIE ROD END:
Y&P—Yoke & Pin

SPRING MOUNTING:
A.A.—Above Axle
U.A.—Under Axle

American Stock Axle

REAR AXLES

MAKE AND MODEL	Designed for	Maximum Load on Spring Pads (lbs.)	Maximum Drive Shaft Torque (lbs. ft.)	Type	FINAL DRIVE: Type	FINAL DRIVE: Gear Material (S.A.E. Steel No.)	GEAR* RATIOS: Standard	GEAR* RATIOS: Optional	AXLE SHAFTS: Diameter at Differential End (Ins.)	AXLE SHAFTS: Diameter at Wheel End (Ins.)	AXLE SHAFTS: Material (S.A.E. Steel No.)	RANGE OF SPRING CENTERS: Maximum (Ins.)	RANGE OF SPRING CENTERS: Minimum (Ins.)	Torque Taken By	Provision for Radius Rods?	Designed for Hotchkiss Drive?	Type of Differential	BRAKES: SERVICE Type	BRAKES: SERVICE Diameter of Drum (Ins.)	BRAKES: SERVICE Width of Drum (Ins.)	BRAKES: EMERGENCY Type	BRAKES: EMERGENCY Diameter of Drum (Ins.)	BRAKES: EMERGENCY Width of Drum (Ins.)
Torbensen 750	Trucks	2700	405	Dd	LG	2315	6.33	8.90	1.00	.....	3140	40	37½	Spr	No	Yes	B	Ext	14.00	3.25	Int	13.63	3.25
Torbensen 1000	Trucks	4200	560	Dd	LG	2315	7.15	8.00	1.12	.....	3140	39½	27½	.....	No	Yes	B	Ext	15.00	3.25	Int	14.63	3.25
Torbensen C	Trucks	7200	785	Dd	LG	2315	8.00	9.00	1.25	.....	3140	39	38	.....	No	Yes	B	Ext	18.00	3.22	Int	17.56	3.22
Torbensen 330	Cars	3000	.....	½Fl	St.B	.....	4.70	5.09	1.25	1.56	.....	Opt	Opt	Spr	No	Yes	B	Ext	15.50	2.00	Int	.....	1.75
U. S. AA	Cars	1800	140	½Fl	S.B	2315	4.30	5.00	1.25	1.56	6145	30	26	Opt	Yes	.....	Opt	Int	14.00	1.75	Int	14.00	1.00
U. S. BB	Cars	2000	200	½Fl	S.B	2315	4.60	5.00	1.50	2.00	6145	30	26	T.T	Yes	No	B	Int	15.00	2.75	Ext‡	.....	.....
Vulcan 3R	T.B.&Tr	6000	5083	F.Fl	W	.....	6.50	9.66	1.50	1.50	3140	39	37	Spr	Yes	Yes	B	Int	18.00	4.00	Int	18.00	4.00
Vulcan 4R	T.B.&Tr	8500	8333	F.Fl	W	.....	7.75	9.50	1.75	1.75	3140	39	37	Spr	Yes	.....	B	Int	20.00	4.00	Int	20.00	4.00
Wisconsin 800G	Trucks	4000	.....	½Fl	W	.....	7.75	8.66	1.56	2.16	3140	40	38	Spr	No	Yes	B	Int	17.00	2.50	Int	12.25	2.50
Wisconsin 800H	Trucks	5500	.....	½Fl	W	.....	8.25	9.33	1.75	2.37	3140	40	38	Spr	No	Yes	B	Int	17.00	2.50	Int	12.25	2.50
Wisconsin 800J	Trucks	7300	.....	½Fl	W	.....	8.66	9.66	1.87	2.62	3140	40	38	Spr	No	Yes	B	Int	17.00	2.50	Int	12.25	2.50
Wisconsin 60A,B,C	Trucks	7300	.....	½Fl	D.R	2315	7.00	7.75	1.75	2.62	3140	40	38	Spr	No	Yes	B	Int	17.00	2.50	Int	12.25	2.50
Wisconsin 900C, 88C	Trucks	8800	.....	½Fl	W	2315	8.66	9.66	2.00	3.00	3140	41	38½	Spr	No	Yes	B	Int	20.00	2.50	Int	15.50	2.50
Wisconsin 120K	Buses	12000	.....	½Fl	D.R	2315	6.16	6.66	2.00	3.37	3140	50¾	45	T.A	Yes	.....	B	Int	20.00	2.50	Int	15.50	2.50
Wisconsin 120F-120B	Trucks	12000	.....	½Fl	D.R	2315	9.50	8.66	2.25	3.37	3140	44½	42	Spr	.....	Yes	B	Int	20.00	2.50	Int	15.50	2.50
Wisconsin 900E	Trucks	12000	.....	½Fl	W	.....	10.00	11.75	2.25	3.37	3140	44½	42	Spr	No	Yes	B	Int	20.00	2.50	Int	15.50	2.50
Wisconsin 900D	Trucks	12000	.....	½Fl	W	.....	10.00	11.75	2.25	3.37	3140	40½	39	Spr	No	Yes	B	Int	20.00	2.50	Int	15.50	2.50
Wisconsin 1000B	Trucks	16000	.....	½Fl	W	.....	11.75	.....	2.50	3.75	3140	46	40¾	Spr	No	Yes	B	Int	24.00	3.50	Int	18.50	3.50
Continental 2061	Trucks	(Do not	Manuf	acture R	ear Ax	les)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Continental 1892	Trucks	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Continental 1803	Trucks	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Continental 2005	Trucks	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Continental 2203B	Trucks	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Peru 3300	Cars	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shuler 310	Trucks	(Do not	Manuf	acture R	ear Ax	les)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shuler 350	Trucks	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shuler 510	Trucks	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shuler 550	Trucks	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shuler 610	Trucks	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shuler 650	Trucks	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shuler 5410	Buses	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shuler 5550B	Buses	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shuler 610B	Buses	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shuler 650B	Buses	"	"	"	"		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
U.S. C	Cars	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
U.S. D	Buses	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

For abbreviations see pages 432-433.

American Electric

MAKE AND MODEL	GENERAL: Tons Capacity	GENERAL: Weight with Battery	GENERAL: Price of Chassis with Battery	GENERAL: Price of Chassis without Battery	GENERAL: Wheel Base	GENERAL: TIRES TYPE AND SIZE Front	GENERAL: TIRES TYPE AND SIZE Rear	MOTOR: Location	MOTOR: Make	MOTOR: Number	MOTOR: Total Horse Power	CONTROLLER: Location	CONTROLLER: Lever Location	CONTROLLER: Number of Forward Speeds	DRIVE: First Reduction	DRIVE: Final Drive	DRIVE: Total Gear Reduction (Motor to Wheels)	DRIVE: Type of Axle or Jackshaft
C. T. D1	1½	2200†	.....	$1585	100	C-36x3	C-36x3½	Unit with R.A.	G. E.	2	3	Steer. col.	Below S.W.	4	Spur	Spur	11.5	Float
C. T. B15, D15*	¾	2300†	.....	1985	116	S-36x3	S-36x4	Unit with R.A.	G. E.	2	3	Steer. col.	Below S.W.	4	Spur	Spur	11.5	Float
C. T. D2 & B2*	1	2400†	.....	2150	124	S-36x3½	S-36x5	Unit with R.A.	G. E.	2	3	Steer. col.	Below S.W.	4	Spur	Spur	11.5	Float
C. T. B4	2	4000†	.....	2575	116	S-36x4	S-36x4d	Unit with R.A.	G. E.	2	4	Steer. col.	Below S.W.	4	Spur	Spur	12.1	Float
C. T. C6	3	4200†	.....	2575	116	S-36x4	S-36x4d	Unit with R.A.	G. E.	2	3	Steer. col.	Below S.W.	4	Spur	Spur	28.6	Dead
C. T. C7 & A7*	3½	5000†	.....	3550	126	S-36x5	S-36x5d	Unit with R.A.	G. E.	2	4	Steer. col.	Below S.W.	4	Spur	Spur	17.3	Dead
C. T. A10	5	6500†	.....	3960	132	S-36x7	S-36x5d	On F & R Axles.	G. E.	4	6	Steer. col.	Below S.W.	4	Spur	Spur	20.1	Dead
Ehrlich A-Z	1-3½	.....	.....	.....	.....	S-36x4	S-36x5	Unit with R.A.	West.	1	4	Under S.	Left of S.	5	Herr	Herr	20.0	Float
Kelland A	½	3250	$2200	1550	102	S-34x3	S-34x3	Separate	G. E.	1	5-6	Under F.	Right of S.	4	Spur	Spur	13.0	Float
Kelland B	¾	3050	3020	1650	102	S-34x3½	S-34x3½	Separate	G. E.	1	3-6	Under F.	Right of S.	4	Spur	Bevel	13.0	Float
Kelland C	1	3850	2656	1750	102	S-34x3½	S-34x4	Separate	G. E.	1	3-6	Under F.	Right of S.	4	Spur	Bevel	13.0	Float
Lansden BG	¾	.....	.....	1600	108	P-32x4½	P-32x4½	Unit with R.A.	G. E.	.....	.....	Under H.	Below S.W.	4	Herr	Bevel	12.7	Float
Lansden C	1	.....	.....	1850	108	S-36x3	S-36x3½	Unit with J.S.	G. E.	.....	.....	Under H.	Below S.W.	4	Bevel	Chain	11.9	¾ Float
Lansden D	2	.....	.....	2250	121	S-36x4	S-36x3	Unit with J.S.	G. E.	.....	.....	Under H.	Below S.W.	4	Bevel	Chain	12.8	¾ Float
Lansden E	3½	.....	.....	2950	133	S-36x5	S-36x4	Unit with J.S.	G. E.	.....	.....	Under H.	Below S.W.	4	Bevel	Chain	13.1	¾ Float
Lansden F	5	.....	.....	3350	146	S-36x7	S-36x6d	Unit with J.S.	G. E.	.....	.....	Under H.	Below S.W.	4	Bevel	Chain	12.3	¾ Float
Milburn 27D	¼	2925	1085	....	115	P-33x4	P-33x4	Unit with J.S.	G. E.	1	4	Under S.	Left of S.	4	.....	Worm	10.3	½ Float
Milburn 43	½	.....	.....	1585	115	P-32x4½	P-32x4½	Unit with J.S.	G. E.	1	4	Under S.	Below S.W.	4	.....	Worm	10.3	Dead
Milburn 40	1	.....	.....	1985	128	P-32x4½	P-33x5	Unit with J.S.	G. E.	1	5	Under S.	Below S.W.	4	.....	Worm	14.6	Dead
Walker 12	½	.....	.....	.....	104	S-32x3	S-32x3½	Separate	G. E.	1	.....	Under F.	Right of S.	4	None	Bevel	5.5	½ Float
Walker 22	1	.....	.....	.....	101	S-34x3½	S-36x4	Unit with R.A.	West.	1	.....	Under S.	Left of S.	5	None	Spur	16.9	Float
Walker 42	2	.....	.....	.....	114	S-36x4	S-36x6	Unit with R.A.	West.	1	.....	Under S.	Left of S.	5	None	Spur	14.6	Float
Walker P	3½	.....	.....	.....	131	S-36x5	S-38x5d	Unit with R.A.	West.	1	.....	Under S.	Left of S.	5	None	Spur	18.2	Float
Walker N	5	.....	.....	.....	141	S-36x6	S-38x6d	Unit with R.A.	West.	1	.....	Under S.	Left of S.	5	None	Spur	18.2	Float
Walter EN	2	7000	3615	2575	114	S-36x4	S-36x7	Unit with J.S.	G. E.	1	5	Under S.	Right of S.	5	Bevel	Spur	14.0	Float
Walter EL	3½	8000	4740	3475	132	S-36x4	S-36x8	Unit with J.S.	G. E.	1	6	Under S.	Right of S.	5	Bevel	Spur	13.0	Float
Walter ES	5	10500	5520	3975	150	S-36x6	S-40x6d	Unit with J.S.	G. E.	1	7	Under S.	Right of S.	5	Bevel	Spur	.....	Float
Ward WS-2	¼	4650	.....	.....	88	S-32x3	S-32x3½	Unit with P.S.	G. E.	1	3	Under F.	Left of S.	4	None	Worm	14.6	½ Float
Ward WA-3 & WA-4	¾	7200	.....	.....	96	S-32x3½	S-34x4	Unit with P.S.	G. E.	1	4	Under S.	Left of S.	4	None	Worm	14.6	½ Float
Ward WM-2	1-1½	9000	.....	.....	96	S-32x3½	S-34x5	Unit with P.S.	G. E.	1	5	Under F.	Left of S.	4	None	Worm	14.6	½ Float
Ward WB-3 & WB-4	1½	10000	.....	.....	108	S-34x4	S-36x5	Unit with P.S.	G. E.	1	5	Under S.	Left of S.	4	None	Worm	14.6	½ Float
Ward WD-3 & WD-4	2½	14000	.....	.....	120	S-36x5	S-36x7	Unit with P.S.	G. E.	1	6	Under F.	Left of S.	4	None	Worm	17.6	½ Float
Ward WF-3 & WF-4	3½	20000	.....	.....	132	S-36x6	S-36x10	Unit with P.S.	G. E.	1	8	Under F.	Left of S.	4	None	Worm	13.0	½ Float
Ward WH-3 & WH-4	5	28000	.....	.....	146	S-36x7	S-40x12	Unit with P.S.	G. E.	1	10	Under F.	Left of S.	4	None	Worm	13.0	½ Float

*—Made in various wheelbase lengths
†—Weight without battery

TIRES
C—Cushion
S—Solid
d—Dual
P—Pneumatic

MOTOR
Unit with J. S.—Unit with jackshaft
On F. & R. Axles—On front and rear axles
Unit with P. S.—Unit with propeller shaft
Unit with R. A.—Unit with rear axle
G. E.—General Electric
West.—Westinghouse

CONTROLLER
Under S—Under seat
Under F—Under floor
Under H—Under hood
Steer. Col—Steering column

Specifications (Continued)

REAR AXLES										FRONT AXLES											
TYPE OF BEARINGS			Axle Housing Material (S.A.E.)	Axle Trussed?	ROAD CLEARANCE		Tread (Ins.)	Weight (Complete Without Wheels) (Lbs.)	Model	Maximum Load on Spring Pads (Lbs.)	AXLE CENTER SECTION		TYPE OF BEARINGS		Steering Knuckle Material (S.A.E. Steel No.)	Inclination of Steering Pivots (deg.)	Tie Rod End	Spring Mounting Location	ROAD CLEARANCE				MAKE AND MODEL
At Differential	At Wheels	On Pinion Shaft			Minimum (Ins.)	Tire Size (Ins.)					Type	Material (S.A.E. Steel No.)	At Wheels	At Spindle Thrust					Minimum (Ins.)	Tire Size (Ins.)	Tread (Ins.)	Weight (Complete Without Wheels) (Lbs.)	
Roller	Roller	Roller	Mal-I.	No	11½	32	56	370	75	1800	I	1040	Roller.	Plain.	3135	2	Y&P.	A.A.	9¾	32	56	105	Torbensen
Roller	Roller	Roller	Mal-I.	No	13½	36	56	365	AA3	2200	I	1040	Roller.	Plain.	3135	2	Y&P.	A.A.	12	36	56	123	Torbensen
Roller	Roller	Roller	Mal-I.	No	12¾	36	56	570	CC3	2800	I	1040	Roller.	Plain.	3135	2	Y&P.	A.A.	13	36	56	180	Torbensen
Roller	Roller	Ball		No			56		33	3000	I	1040	Roller.	Plain.		0	Ball.	AA			56		Torbensen 330
Roller	B-R	Roller	1020		11	32	56	240	A	1400	I	1035	Roller.	Roller.	6130		Y&P.	A.A.	9½	32	56	88	U. S.
Ball	Ball	Ball	1020	No	10	33	56	260	B	1800	R		Ball.	Ball.	6130	2	Y&P.	U.A.	10¾	33	56	140	U. S.
Roller	Roller	Ball	St-C.	Yes	9¼	34	58	670	3F	2600	I	1035	Roller.	Roller.	3130	2½	Y&P.	A.A.	9¾	34	58	140	Vulcan
Roller	Roller	Ball	St-C.	Yes	9¼	36	58½	840	4R		I	1035	Roller.	Roller.	3130	2½	Y&P.	A.A.	11¾	36	58½	207	Vulcan
Ball	B or R.	Ball	Mal-I.	No	11	35	57½	510															Wisconsin 800G
Ball	B or R.	Ball	Mal-I.	No	11	36	57½	600															Wisconsin 800H
Ball	B or R.	Ball	Mal-I.	No	11	36	58	660															Wisconsin 800J
Ball	Roller	Ball	Mal-I.	No	11	36	57½	675															Wisconsin 60A,B,C
Ball	B or R.	Ball	Mal-I.	No	12	40	59½	835															Wisconsin 900C, 88C
Ball	Ball	Ball	Mal-I.	No	12	40	73	960															Wisconsin 120K
Ball	Ball	Ball	Mal-I.	No	12	40	64	960															Wisconsin 120F-120B
Ball	B or R.	Ball	Mal-I.	No	12	40	64	960															Wisconsin 900E
Ball	B or R.	Ball	Mal-I.	No	12	40	60	935															Wisconsin 900D
Ball	B or R.	Ball	Mal-I.	No	11	42	70	1550															Wisconsin 1000B
									2001	1500	I	1035	Roller.	Plain.	3135	0	Y&P.	A.A.					Continental 2001
									1802	3000	I	1035	Roller.	Ball.	3135	0	Y&P.	A.A.					Continental 1802
									1803	7000	I	1035	Roller.	Ball.	3135	0	Y&P.	A.A.					Continental 1803
									2005	10000	I	1035	Roller.	Ball.	3135	0	Y&P.	A.A.					Continental 2005
									2203B		I	1035	Roller.	Ball.	3135	0	Ball.	Opt.					Continental 2203B
									3300	1400	I	1035	Roller.	Plain.	1035	0	Y&P.	A.A.	10¼	32	56	88	Peru 3300
									310	2000	I	1035	Roller.	Plain.	3135	0	Y&P.	A.A.	11	32	56	125	Shuler 310
									350	2550	I	1035	Roller.	Plain.	3135	0	Y&P.	A.A.	11	32	Opt.	135	Shuler 350
									510	2900	I	1035	Roller.	Plain.	3135	0	Y&P.	A.A.	11	34	Opt.	175	Shuler 510
									550	3200	I	1035	Roller.	Plain.		0	Y&P.	A.A.	11	34	Opt.	190	Shuler 550
									610	4500	I	1035	Roller.	B or P.		0	Y&P.	A.A.	11	36	Opt.	240	Shuler 610
									650	6500	I	1035	Roller.	Ball.	3135	0	Y&P.	A.A.	11	36	Opt.	305	Shuler 650
									5410	2500	I	1035	Roller.	Ball.	3135	0	Y&P.	A.A.	8	32	56	145	Shuler 5410
									5550B	4000	I	1035	Roller.	Ball.	3135	0	Y&P.	A.A.	8	34	Opt.	210	Shuler 5550B
									610B	5000	I	1035	Roller.	Ball.	3135	0	Y&P.	A.A.	7½	34	Opt.	255	Shuler 610B
									650B	6500	I	1035	Roller.	Ball.	3135	0	Y&P.	A.A.	7½	34	Opt.	410	Shuler 650B
									C	1800	I**	2335	Roller.	Ball.	6130	12	Ball.	Opt.	9½	32	56	140	U.S. C
									D	6000	I**	2335	Roller.	Ball.	6135	12	Ball.	Opt.	11	38	67	220	U.S. D

Truck Specifications

For abbreviations see pages 432-433.

DRIVE				SPRINGS		BATTERY								PERFORMANCE				MAKE AND MODEL
Propulsion Taken By	Torque Taken By	Steering Wheel Location	Distance from Ground to Top of Frame at Dash (Ins.)	Type, Front	Type, Rear	Location	Make	Model	Price	Voltage	Ampere Hour Capacity	Number of Plates	Number of Cells	Number of Trays	Miles per Charge		Speed in M.P.H.		
															Loaded	Light	Loaded	Light	
Float	Rad. & spr.	Left	32½	½Ell.	½Ell.	Under F.A.	Optional										13	14	C. T. D1
Float	Rad. & spr.	Left	32	½Ell.	½Ell.	Under F.A.	Optional										13	14	C. T. B15, D15*
Float	Rad. & spr.	Left	33	½Ell.	½Ell.	Under F.A.	Optional										12	14	C. T. D2 & B2*
Float	Rad. & spr.	Left	35¼	½Ell.	½Ell.	Under F.A.	Optional										10	12	C. T. B4
Dead	Rad. & spr.	Left	36½	½Ell.	½Ell.	Under F.A.	Optional										7	8	C. T. C6
Dead	Rad. & spr.	Left	36¼	½Ell.	½Ell.	Under F.A.	Optional										8	10	C. T. C7 & A7*
Dead	Rad. & spr.	Left	38⅝	½Ell.	½Ell.	Under F.A.	Optional										8	10	C. T. A10
Float	Springs	Left		Ell.	Ell.	Under F.A.	Edison	A-8			300		60	6	50	65	14	14	Ehrlich A-Z
Float	Springs	Left	29½	½Ell.	½Ell.	Under S.	Exide‡	Ironclad	650	83	136	9	42	12	35	45	14	16	Kelland A
Float	Springs	Left	30	½Ell.	½Ell.	Under S.	Edison‡	A-5	1470	72	187½	5	60	14	40	50	13	15	Kelland B
Float	Springs	Left	30½	½Ell.	½Ell.	Under S.	Exide‡	Ironclad	906	83	204	13	42	12	45	55	12	14	Kelland C
Float	Springs	Tor. Arm	30	½Ell.	½Ell.	Under S.	Edison								50		14	15	Lansden BG
¾ Float	Rad. rods	Springs		½Ell.	½Ell.	Under F.A.	Edison								50		10	12	Lansden C
¾ Float	Rad. rods	Springs	34	½Ell.	½Ell.	Under F.A.	Edison												Lansden D
¾ Float	Rad. rods	Springs	39	½Ell.	½Ell.	Under F.A.	Edison								45		8	10	Lansden E
¾ Float	Rad. rods	Springs	39	½Ell.	½Ell.	Under F.A.	Edison								40		7	9	Lansden F
½ Float	Tor. tube	Tor. tube		½Ell.	Cant.	Under H.F.	Optional					13	40		50	60	20		Milburn 27D
Dead	Springs	Left		½Ell.	½Ell.	Under H.F.	Optional								45	55	18		Milburn 43
Dead	Springs	Left		½Ell.	½Ell.	Under H.F.	Optional								40	50	8	15	Milburn 40
½ Float	Springs	Springs	25	½Ell.	½Ell.	Under H.F.	Optional											15	Walker 12
Float	Springs	Springs	34	½Ell.	½Ell.	Under F.A.	Optional											14	Walker 22
Float	Springs	Springs	35	½Ell.	½Ell.	Under F.A.	Optional											13	Walker 42
Float	Springs	Springs	40	½Ell.	½Ell.	Under F.A.	Optional											11	Walker P
Float	Springs	Springs	40	½Ell.	½Ell.	Under F.A.	Optional											10	Walker N
Float	Springs	Springs	36	½Ell.	½Ell.	Under F.A.	Exide	Ironclad	1010	85	240	15	42	8	40	60	13	15	Walter EN
Float	Springs	Springs	36	½Ell.	½Ell.	Under F.A.	Exide	Ironclad	1265	85	325	19	42	8	40	60	12	14	Walter EL
Float	Springs	Springs	41	½Ell.	½Ell.	Under F.A.	Exide	Ironclad	1550	85	400	23	42	8	40	60	10	12	Walter ES
½ Float	Springs	Springs	29	½Ell.	½Ell.	Under S.	Optional								50	65	13	14	Ward WS-2
½ Float	Springs	Springs	33¾	½Ell.	½Ell.	Under F.A.	Optional								60	75	11	13	Ward WA-3 & WA-4
½ Float	Springs	Left	23½	½Ell.	½Ell.	Rear over F.	Optional								60	77	10	12	Ward WM-2
½ Float	Springs	Left	34½	½Ell.	½Ell.	Under F.A.	Optional								48	63	10	12	Ward WB-3 & WB-4
½ Float	Springs	Springs	33	½Ell.	½Ell.	Under S.	Optional								57	76	9	11	Ward WD-3 & WD-4
½ Float	Springs	Left	36	½Ell.	½Ell.	Under S.	Optional								44	75	8	10	Ward WF-3 & WF-4
½ Float	Springs	Left	38	½Ell.	½Ell.	Under S.	Optional								38	66	7	9	Ward WH-3 & WH-4

Below S. W.—Below steering wheel
Left of S—Left of seat
Right of S—Right of seat

DRIVE
Herr—Herringbone gear
Float—Floating
½ Float—½ Floating
¾ Float—¾ Floating

Rad. Rods—Radius rods
Tor. Arm—Torque arm
Rad. & Spr—Radius rods and springs
½ Ell—½ Elliptic
Cant—Cantilever

BATTERY
Under F. A.—Under frame amidships
Under S—Under seat
Rear Over F—Rear over frame
Under H. F.—Under hood in front
‡—Make Optional

American Stock Gearset Specifications

MAKE AND MODEL	GENERAL: Designed For	GENERAL: Max. Engine Torque (lbs. ft.)	GENERAL: Type	BEARINGS: Main Shaft	BEARINGS: Secondary Shaft	Number of Forward Speeds	WIDTH OF GEAR FACES: Constant Mesh (ins.)	WIDTH OF GEAR FACES: Low (ins.)	WIDTH OF GEAR FACES: 2nd (ins.)	WIDTH OF GEAR FACES: 3rd (ins.)	WIDTH OF GEAR FACES: 4th (ins.)	WIDTH OF GEAR FACES: Reverse (ins.)	Gear Teeth Pitch	MATERIALS (S.A.E. Steel No.): Housing	MATERIALS (S.A.E. Steel No.): Shafts	MATERIALS (S.A.E. Steel No.): Gears	GEAR RATIOS: Low	GEAR RATIOS: 2nd	GEAR RATIOS: 3rd	GEAR RATIOS: 4th	GEAR RATIOS: Reverse	Gearset Location	Control Location	Sold With Clutch?	WEIGHT (lbs.): Cast Iron	WEIGHT (lbs.): Aluminum	MAKE AND MODEL
Brown Lipe.....20	C.T.	85	Clash	B.-R.	B.R-P	3	1/2	5/8	5/8	Dir.		5/8	6–8	C.I.	C.S.	2320	3.34	1.66	1.00		4.17	On Eng.	Center	Yes	100	86	Brown Lipe.....20
Brown Lipe.....30	C.T.	135	Clash	Roller	Ball	3	5/8	3/4	3/4	Dir.		3/4	6-8	C-Al.	C.S.	2320	Opt.	1.68	1.00		Opt.	On Eng.	Center	Opt	142	95	Brown Lipe.....30
Brown Lipe.....30-A	Cars	135	Clash	Ball	Ball	3	5/8	3/4	3/4	Dir.		3/4	6-8	Alum.	C.S.	2320	3.33	1.68	1.00		4.35	On Eng.	Center	Opt		117	Brown Lipe.....30-A
Brown Lipe.....31	T.	180	Clash	Roller	Roller	3	5/8	3/4	3/4	Dir.		3/4	6-8	C.I.	C.S.	2320	4.80	2.25	1.00		6.00	On Eng.	Center	Yes			Brown Lipe.....31
Brown Lipe.....35	T.	180	Clash	Roller	Roller	3	5/8	3/4	3/4	Dir.		3/4	6-8	C.I.	C.S.	2320	4.01	1.76	1.00		4.93	Amid.	Center	Opt	100		Brown Lipe.....35
Brown Lipe.....35	C.T.	180	Clash	Roller	Roller	4	5/8	3/4	3/4	3/4	Dir.	3/4	6-8	C-Al.	C.S.	2320	5.35	2.84	1.76	1.00	6.25	E or A.	Center	Opt	198	150	Brown Lipe.....35
Brown Lipe.....35	C.T.	180	Clash	Roller	Roller	4	5/8	3/4	3/4	Dir.	3/4	3/4	6-8	C-Al.	C.S.	2320	3.29	1.61	1.00	7.87	3.94	E or A.	Center	Opt			Brown Lipe.....35
Brown Lipe.....50	C.T.	210	Clash	Roller	Roller	4	7/8	1	1	Dir.	1	3/4	6-8	C-Al.	C.S.	2320	3.29	1.61	1.00	.787	3.94	E or A.	Center	Opt			Brown Lipe.....50
Brown Lipe.....50	C.T.	210	Clash	Roller	Roller	4	7/8	1	1	1	Dir.	3/4	6-8	C-Al.	C.S.	2320	5.35	2.84	1.76	1.00	6.25	E or A.	Center	Opt			Brown Lipe.....50
Brown Lipe.....51	T.	210	Clash	Roller	Roller	4	7/8	1 1/8	1	1	1	1 1/8	6-8	C.I.	C.S.	2320	5.35	2.84	1.76	1.00	6.25	E or A.	Opt	Opt			Brown Lipe.....51
Brown Lipe.....55		250	Clash	Roller	Roller	4	3/4	1 1/8	1	7/8	Dir.	1 1/8	5-7	C-Al.	C.S.	2320	5.35	2.84	1.76	1.00	6.25	E or A.	Opt	Opt			Brown Lipe.....55
Brown Lipe.....55	T.B.Tr.	250	Clash	Roller	Roller	4	3/4	1 1/8	7/8	Dir.	7/8	1 1/8	5-7	C.I.	C.S.	2320	3.95	1.89	1.00	.78	4.75	E or A.	Opt	Opt			Brown Lipe.....55
Brown Lipe.....60	T.B.Tr.	275	Clash	Roller	Roller	4	1 1/4	1 1/2	1 1/2	Dir.	1 1/2	1 3/8	5-7	C.I.	C.S.	2320	3.85	1.89	1.00	.78	4.75	Amid.	Center	Opt			Brown Lipe.....60
Brown Lipe.....60†	T.	92	Clash	Roller	Roller	3	1 1/4	1 1/2	Dir.	1 1/2			5-7	C.I.	C.S.	2320	2.25	1.00	.67			Amid.	Center	Opt			Brown Lipe.....60
Brown Lipe.....60	T.B.Tr.	275	Clash	Roller	Roller	4	1 1/4	1 1/2	1 1/2	1 1/2	Dir.	1 3/8	5-7	C.I.	C.S.	2320	5.35	2.84	1.76	1.00	6.43	Amid.	Center	Opt	235		Brown Lipe.....60
Brown Lipe.....60	T.Tr.	275	Clash	Roller	Roller	3	1 1/4	1 1/2	1 1/2	Dir.		1 1/2	5-7	Alum.	C.S.	2320	4.00	1.76	1.00		4.90	On Eng.	Center	Yes			Brown Lipe.....60
Campbell.....D21	T.		Clash	Ball	Plain	3	1 1/2	3/4	3/4	3/4			6-8	C.I.	3240	3240	3.87	1.73	1.00		3.85	On Eng.	Center	Opt	120		Campbell.....D21
Cotta...12C-12CR-12SR	T.		Ind.C.	Ball	Ball	3	1 1/2	1 1/2	1 1/2	1 1/2		1 1/2	4 1/2–5 1/2	S.S.	2340	2320	5.51	1.81	1.00		6.00	Amid.	Center	No			Cotta...12C-12CR-12SR
Cotta.....5S	T.		Ind.C.	Ball	Ball	3	1 1/4	1 1/4	1 1/4	Dir.			4 1/2–5 1/2	S.S.	2340	2320	4.51	1.81	1.00			Amid.	Center	No			Cotta.....5S
Cotta.....T	T.B.Tr.		Ind.C.	Ball	Ball	3 or 4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	4 1/2–6	S.S.	3140	3120	5.20	3.68	1.86	1.00	4.66	Amid.	Center	Opt			Cotta.....T
Cotta.....S-SU-SAU	T.B.Tr.		Ind.C.	Ball	Ball	3 or 4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	5-7	S.S.	3140	3120	5.20	3.68	1.86	1.00	4.66	E or A.	Center	Opt			Cotta.....S-SU-SAU
Cotta....R-RU-RA-RAU	T.B.Tr.		Ind.C.	Ball	Ball	3 or 4	1	1	1	1	1	1	5 1/2–7 1/2	S.S.	3140	3120	5.20	3.68	1.86	1.00	4.66	E or A.	Center	Opt			Cotta....R-RU-RA-RAU
Cotta....A-AU-AA-AAU	T.B.Tr.		Ind.C.	Ball	Ball	3	3/4	3/4	3/4	3/4	3/4	3/4	6-8	S.S.	3140	3120	5.20	3.68	1.86	1.00	4.66	E or A.	Center	Opt			Cotta....A-AU-AA-AAU
Covert.....E	Cars	140	Clash	Ball	Plain	3	5/8	5/8	5/8	1/2		5/8	6-8	C.I.		2320	3.00	2.86	1.70	1.00	3.57	On Eng.	Center	Opt	77		Covert.....E
Covert.....RU4C	T.	183	Clash	Ball	Ball	4	1 7/8	1 1/4	1	1	Dir.	1 1/8	6-8	C.I.		2320	4.76	2.70	1.60	1.00	5.95	E or A.	Center	Yes	274		Covert.....RU4C
Covert.....RA4	T.	183	Clash	Ball	Ball	4	1 7/8	1 1/4	1	1	Dir.	1 1/8	6-8	C.I.		2320	4.76	2.70	1.60	1.00	5.95	E or A.	Center	Yes	164		Covert.....RA4
Covert.....RU3C	T.	183	Clash	Ball	Ball	3	1 7/8	1	1	Dir.		1 1/8	6-8	C.I.		2320	3.67	1.60	1.00		4.37	E or A.	Center	Yes	215		Covert.....RU3C
Covert.....RA3	T.	183	Clash	Ball	Ball	3	1 7/8	1	1	Dir.		1 1/8	6-8	C.I.		2320	3.67	1.60	1.00		4.37	E or A.	Center	Yes	135		Covert.....RA3
Covert.....J	C.T.	177	Clash	Ball	Ball	3	1 1/16	1 1/16	1 1/16	Dir.		1 1/16	6-8	C.I.		2320	3.62	1.91	1.00		4.46	E or A.	Center	Opt	105		Covert.....J
Covert MUC-MUT-MUB-MA	C.T.	129	Clash	Ball	Ball	3	1 1/16	1 1/16	1 1/16	Dir.		1 1/16	6-8	C.I.		2320	3.62	1.91	1.00		4.46	E or A.	Center	Opt	115		Covert MUC-MUT-MUB-MA
Covert.....SA4	T.	192	Clash	Ball	Roller	4	1 1/8	1 1/16	1 1/4	1 1/8	Dir.	1 1/4	5-7	C.I.		2320	5.07	3.04	1.63	1.00	6.76	Amid.			240		Covert.....SA4
Detroit.....KY	C.T.	160	Clash	Ball	Roller	3	3/4	1 1/2	7/8	Dir.		1 1/2	7-9	C-Al.		2320	3.12	1.69	1.00			On Eng.	Center	Opt	95	70	Detroit.....KY
Detroit.....LY	Cars	130	Clash	B. or R.	Plain	3	7/8	1 1/2	1 1/2	Dir.		5/8	7-9	C-Al.		2320	3.12	1.69	1.00			On Eng.	Center	Opt	85	62	Detroit.....LY
Detroit.....R	T.B.	220	Clash	Ball	Ball	4	7/8	1	1	1 1/16	Dir.	1	6-8	C.I.		2320	5.00	3.23	1.75	1.00	7.08	Amid.	Center		155		Detroit.....R
Detroit.....KY	C.T.	160	Clash	Ball	Roller	3	3/4	1 1/2	7/8	Dir.	1 1/2		7-9	C-Al.		2320	3.12	1.69	1.00			On Eng.	Center	Opt	95	70	Detroit.....KY
‡‡Dundore.....M35	C.T.		Clash	Ball	Ball	3	1 1/16	1 1/16	3/4			1 1/16	6-8	S.S.		2345	3.07	1.76	1.00		4.00	On Eng.	Center	No	85		‡‡Dundore.....M35
‡‡Dundore.....F30	T.		Clash	Ball	Ball	3	7/8	1				1	6-8	S.S.		2345	3.36	1.90	1.00		4.32	On Eng.	Center	No	155		‡‡Dundore.....F30
‡‡Dundore.....K	Cars		Clash	Ball	Ball	4	3/4	3/4	3/4	3/4		3/4	6-8	Alum.		5140	5165	2.69	1.56	1.00	.73	3.46	Amid.		No		105	‡‡Dundore.....K
‡‡Dundore.....R	Cars		Clash	Ball	Ball	4	3/4	3/4	3/4	3/4		3/4	6-8	Alum.		5140	5165	2.69	1.56	1.00	.73	3.46	On Eng.	Center	No		120	‡Dundore.....R
Durston...05000-04700	C.T.	150	Clash	Roller	Plain	3	5/8	3/4	5/8	5/8		3/4	6-8	CorAl.		3140	3.09	1.85	1.00		3.87	On Eng.	Center	No	95	70	‡Durston...05000-04700
Durston.....02500B	C.T.	150	Clash	Ball	Plain	3	5/8	3/4	5/8	5/8	5/8	3/4	6-8	C.I.		3140	3.09	1.85	1.00		3.87	On Eng.	Center	No	95		Durston.....02500B
Fuller.....F	Cars		Clash	Ball	Plain	3	5/8	5/8	5/8	5/8		5/8	6-8	C.I.	N.S.	N.S.						On Eng.	Center	Opt			Fuller.....F
Fuller.....TU	C.T.B.Tr.		Clash	Ball	Ball	3	7/8	7/8	7/8			7/8	6-8	C.I.	N.S.	N.S.						E. or A.	Center	Opt			Fuller.....TU
Fuller.....GU	C.T.B.Tr.		Clash	Ball	Ball	4	7/8	7/8	7/8	7/8		7/8	{6-8 / 5-7}	C.I.	N.S.	N.S.						E. or A.	Center	Opt			Fuller.....GU
Fuller.....H	T.B.Tr.		Clash	Ball	Ball	4	1 1/4	1 1/4	1 1/4	1 1/4		1 1/4	6-8	C.I.	N.S.	N.S.						E. or A.	Center	Opt			Fuller.....H
Grant Lees.....573	C.T.B.	190	Clash	B.R.-P.	Plain	3	1 1/16	3/4	3/4	9/16		3/4	7-9	C.I.		2320	3.40	1.72	1.00		4.04	On Eng.	Center	No	100		Grant Lees.....573
Grant Lees.....515	C.T.B.	190	Clash	B.P.	Ball	3	1 1/16	3/4	3/4	9/16		3/4	6-8	C.I.		2320	3.25	1.70	1.00		3.75	On Eng.	Center	No	100		Grant Lees.....515
Grant Lees.....K	C.T.	140	Clash	B.R.	Plain	3	9/16	5/8	7/16			5/8	7-9	C.I.		2320	2.98	1.89	1.00		3.62	On Eng.	Center	No	80		Grant Lees.....K
Mechanics.....LU	C.T.	150	Clash	Ball	Plain	3	1 1/2	3/4	3/4	3/4		3/4	7-9	C.I.		2340	3.24	1.80	1.00		4.16	On Eng.	Center	No	92	61	Mechanics.....LU
Mechanics.....MU	Cars	100	Clash	Ball	Plain	3	9/16	5/8	11/16	21/44		5/8	7-9	C.I.		2340	3.07	1.76	1.00		4.01	On Eng.	Center	No	75		Mechanics.....MU
Muncie.....T23N	C.T.	165	Clash	Ball	Ball	3	3/4	13/16	13/16			13/16	6-8	C.I.		2320	4.00	2.00	1.00		5.33	On Eng.	Center	Opt	117		Muncie.....T23N
Muncie.....235	T.B.	215	Clash	Ball	Ball	4	1 1/16	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	5-7	C.I.		6140	6150	4.88	2.94	1.54	1.00	5.85	Amid.		No	283		Muncie.....235
Muncie.....M234	T.B.	160	Clash	Ball	Ball	4	3/4	7/8	7/8	7/8	13/16	7/8	5-7	C.I.		6140	6140	4.05	2.48	1.58	1.00	4.85	On Eng.	Center	No	183		Muncie.....M234
Muncie.....Uni	C.T.	140	Clash	Ball	Plain	3	Opt.	3/4	3/4	3/4		3/4	6-8	C.I.		6140	6150	3.52	1.73	1.00		3.96	On Eng.	Center	No	85		Muncie.....Uni
Muncie.....M280	T.B.	160	Clash	Ball	Ball	3	Opt.	7/8	7/8	7/8		7/8	5-7	C.I.		6140	6150	3.65	1.58	1.00		4.43	On Eng.	Center	No	168		Muncie.....M280
Muncie.....Uni	Cars	110	Clash	Ball	Plain	3	Opt.	3/4	11/16	11/16		11/16	7-9	C.I.		6140	6150	3.32	1.77	1.00		4.27	On Eng.	Center	No			Muncie.....Uni
Warner.....T64V	Cars	160	Clash	B&R	Plain	3	9/16	11/16	13/16	Dir.			7-9	C.T.		1045	C.S.	3.11	1.67	1.00		3.78	On Eng.	Center	No	125		Warner.....T64V
Warner.....T66	C.T.	220	Clash	B&R	Roller	3	9/16	3/4	7/8	Dir.			6-8	C.T.		1045	C.S.	3.04	1.81	1.00		3.70	On Eng.	Center	No	85		Warner.....T66

ABBREVIATIONS:
‡‡—Taken from 1922 Specifications
DESIGNED FOR:
†—Auxiliary Not for Constant Use
C—Cars
T—Trucks
B—Buses
Tr—Tractors

TYPE:
Ind. C.—Individual Clutch

BEARINGS:
B—Ball
R—Roller
P—Plain

MATERIALS:
Alum—Aluminum
C. I.—Cast Iron
S. S.—Semi Steel
C-Al—Cast Iron-Aluminum
C. S.—Chrome Steel
N. S.—Nickel Steel

LOCATION:
On Eng—On Engine
Amid—Amidships
E. or A.—Engine or Amidships
Opt—Optional
Dir—Direct

Many New Models in British Farm Tractor Field

By M. W. Bourdon

DESPITE the continued depression in the farming industry and the consequent slackness in tractor sales, there has lately been a certain amount of activity among British manufacturers in the way of introducing new models and modifying details of existing ones. The most noteworthy additions are those of the Fowler line, dealt with in the accompanying specifications table. Fowlers, who were originally large makers of steam traction engines, have hitherto confined their energies in the agricultural field to one model of self-contained motor plow and an internal combustion engined cable plowing set. But they have now supplemented this with three new motor plow models and a series of internal combustion engined plowing tractors. Saunderson, one of the oldest of farm tractor makers in England, has also introduced a new light model. This displaces a light-weight type which appeared for the first time in public at the Tractor Trials of 1920, and there gave quite a good account of itself. The latest model has an engine with two cylinders arranged at 90 deg., with overhead valves, and uses inclosed chain transmission from clutch shaft to gear shaft, as well as from the latter to the rear wheels.

The hollow crankshaft (pressure) system of lubrication is rapidly becoming universal in British tractors; all of the new Fowler line have this system, the four-wheel models having the pressure relief valve controlled by the vacuum in the inlet manifold. Another innovation consists in connecting the oil level to the ignition switch, with the result that the magneto is grounded when the oil level falls below the safety line. Gasoline is the standard fuel for this make, though kerosene vaporizers are fitted on demand.

Magneto ignition is universal, and the majority of makers use a cone clutch and spur gear final drive, though in several cases it is inclosed in a live axle casing. Frameless designs have gained by the appearance of the Fowler tractors, which embody this feature.

The demand for tractors in Great Britain—small as it has been of late—indicates that the light-weight machine operating three plows in light land and two in heavy soil is the most popular, which is due to the comparatively small size of the fields, usually between 20 and 40 acres.

Chain track machines are not much favored, and there is only one of this type now made in England, the Blackstone, which has a three-cylinder engine with kerosene fuel injected into the combustion chambers. Other makers, who offered creeper machines as well as the wheeled type, have discarded the former.

Practically all British agricultural tractors are now made for field work alone, the endeavor to comply with the national road laws by having both axles sprung having been given up. One maker offers spring suspension fore and aft if required, altering his final drive to make the rear suspension possible.

There is only a very limited demand for a garden tractor, and the Service self-contained plow is the only example among British products.

British Agricultural Tractor Specifications

MAKE	ENGINE						TRANSMISSION						Wheelbase (Ins.)	Frame Type	Weight (Lbs.)	Water Injected?	Air Cleaner Type	BELT PULLEY				Number of Forward Speeds	SPEEDS (M.P.H.)			
									WHEELS																	
	Make	No. of Cylinders Bore and Stroke (Ins.)	Normal R.P.M.	Oiling System	Oil Pump Type	Fuel	Clutch Type	Final Drive	No. Driving	No. Non-Driving	Dia. and Width (Driving)	Driving Axle Type						Diameter (Ins.)	Width (Ins.)	R.P.M.	Location		Low	First	Second	Reverse
Austin	Own	4-3¾x5	1500	Hol.Cs.	Gear	Opt.	Cone	Spur	2	2	42x10	Live.	68	None.	3136	No.	Wet.	24	6	360	Side.	2	2½	4¼	...	2
Blackstone	Own	3-5½x6½	750	Hol.Cs.	Plunger	Ker.	Cone	Spur	C	C	.....	Sta.	....	Rolled.	5400	Yes.	Wet.	10x17	6	500	Side.	3	2	3	9½	1½
Crawley*	Own	4-4½x5½	950	Hol.Cs.	Gear	Gas.	Cone	Spur	2	1	48x8	Sta.	....	Rolled.	4704	No.	None.	14	6	550	Rear.	2	2¾	2½	...	1½
Fowler*.....16	Own	4-3½x4½	1000	Hol.Cs.	Gear	Gas.	DryPl.	Spur	2	1	44x6	Live.	114	Rolled.	2900	No.	Dry.	6	3½	1000	Side.	2	1¾	2½	...	1¼
Fowler*.....20	Own	4-3½x5	1000	Hol.Cs.	Gear	Gas.	DryPl.	Spur	2	1	44x6	Live.	114	Rolled.	3600	No.	Dry.	6	3½	1000	Side.	2	1¾	2½	...	1¼
Fowler*.....30	Own	4-4½x5¼	1040	Hol.Cs.	Gear	Gas.	DryPl.	Spur	2	1	54x8	Live.	118	Rolled.	5000	No.	Dry.	8	4¾	1040	Side.	3	1¾	2¾	3¾	1½
Fowler*.....45	Own	4-4¾x6	1040	Hol.Cs.	Gear	Gas.	DryPl.	Spur	2	1	63x10	Live.	144	Rolled.	6200	No.	Dry.	8	4¾	1040	Side.	3	1¾	2¾	3¾	1½
Fowler	Own	4-3½x5	1000	Hol.Cs††	Gear	Gas.	DryPl.	Bev.&S.	2	2	48x10	Live.	77	None.	3900	No.	Dry.	12	6	900	Side.	3	2	3	4	2
Fowler	Own	4-4½x5¼	1000	Hol.Cs††	Gear	Gas.	DryPl.	Bev.&S.	2	2	57x12	Live.	87	None.	5700	No.	Dry.	12	6	900	Side.	3	2	3	4	2
Fowler	Own	4-4¾x6	1000	Hol.Cs††	Gear	Gas.	DryPl.	Bev.&S.	2	2	57x12	Live.	90	None.	7300	No.	Dry.	16	6½	690	Side.	3	2	3	4	2
Fowler	Own	4-5x7½	1000	Hol.Cs††	Gear	Gas.	DryPl.	Bev.&S.	2	2	72x16	Live.	144	None.	14000	No.	Dry.	16	6½	690	Side.	3	2	2½	3½	2
Glasgow	Cont.	4-4½x5¼	1150	Circ.Sp.	Piston	Ker.	Cone	Bevel	3	....	39x12 & 8½	Live.	75	None.	4144	No.	Dry.	9	6	1150	Side.	2	2½	4½	...	1¾
Martin	Gall.	4-4¼x5½	1000	Circ.Sp.	Piston	Ker.	Cone	Spur	2	2	52x12	Sta.	86	Rolled.	5600	No.	Wet.	18	6	450	Side.	2	2	3½	...	2
Omnitractor	Own	2-6½x9	750	Hol.Cs.	Gear	Ker.	Cone	Spur	2	2	60x16	Sta.	90	Rolled.	7500	Yes.	Dry.	15	6	500	Side.	2	2¼	4½	...	2½
Peterboro	Ricardo	4-4¾x5½	950	Hol.Cs.	Piston	Ker.	Cone	Spur	2	2	54x10	Live.	87	Rolled.	5600	No.	Dry.	12	6	900	Rear.	2	1⅞	2¾	...	1¾
Saunderson	Own	2-4½x6½	1000	Splash.	None	Ker.	Cone	Chain	2	2	42x8	Sta.	88	Rolled.	3200	No.	.....	11	5	900	Side.	2	2	3	....	2
Saunderson	Dion	2-5½x8	750	Hol.Cs.	Gear	Ker.	Cone	Spur	2	2	48x10	Live.	90	Rolled.	5824	No.	Dry.	12	7	750	Side.	3	1⅝	2⅛	4¼	2½
Service*	Own	1-3½x4½	1200	Splash.	.....	Gas.	.....	Spur	2	1	25x7	Sta.	....	Rolled.	1120	No.	None.	4½	3⅜	1200	Front.	1	2½	.....	.....	None.
Wallis (British)	Ruston.	4-4¼x5¾	850	Circ.Sp.	Plunger	Ker.	Plate	Spur	2	2	48x12	Live.	84	None.	4212	Yes.	Wet.	18	6¾	850	Side.	2	2½	3½	...	2½
Weeks-Durgey	Wauk.	4-4¼x5¾	900	Circ.Sp.	Gear	Ker.	Plate	Spur	2	2	40x10	Live.	60	Rolled.	3920	No.	Dry.	8	6	900	Rear.	3	1¾	2¾	4½	1½

ABBREVIATIONS:
*—Self Contained Motor Plow
††—Vacuum Control of Oil Pressure
Cont—Continental
Wauk—Waukesha
Hol.Cs.—Hollow Crankshaft with Pressure Feed to All Crankshaft Bearings
Cir. Sp.—Circulating Splash
Ker—Kerosene
Gas—Gasoline
Dry Pl.—Dry Plate
Bev. & S.—Bevel & Spur
C—Crawler Type
Sta—Stationary
Opt—Optional

American Agricultural

MAKE AND MODEL	GENERAL										ENGINE																		
																		Governor		Ignition	Fuel System								
	Price	Capacity: No. of 14" Plows	Plowing Speed (M. P. H.)	Wgt. Complete (Lbs.)	Wheel Base (Ins.)	Minimum Turning Diameter (Ft.)	Ground Clearance (Ins.)	Drawbar Type	Drawbar—Belt Rating	Steering Type	Make	Rated Horsepower (N.A.C.C.)	Number Cylinders	Bore and Stroke	Engine Type	No. of Cyls. per Casting	Valve Arrangement	Normal R.P.M. at Plowing Speed	Make	Type	Make of System	Impulse Starter Fitted?	Make and Size of Carbureter (Ins.)	Fuel Feed	Number and Capacity of Fuel Tanks (gals.)	Water Injected?	Make of Air Cleaner
Allis-Chalmers	$295	1	2.40	2500	81	9′ 11″	26½	Ver.	6–12	F.A.K.	LeRoi	15.63	4	3⅛x4½	Ver.	4	"L"H.	1000	LeRoi.	Cent.	Dixie.	No.	King ⅞	Gra.	1-G- 8½	No.	Ben.
Allis-Chalmers	1185	3	2.30	4700	78	12′ 0″	13	Uni.	15–25	F.A.K.	Midw	27.23	4	4½x5¼	Ver.	2	IH.	1100	Own.	Cent.	Dixie.	Yes	King 1¼	Gra.	1-G-20	No.	Taco.
Allis-Chalmers	1885	4	2.50	6150	94	12′ 0″	11½	Uni.	20–35	F.A.K.	Own.	36.10	4	4¾x6½	Ver.	4	IH.	930	Own.	Cent.	Dixie.	Yes	King 1½	Gra.	3-G-40	No.	Taco.
Allwork C	1293	3	2.75	5200	80	12′ 0″	14	Uni.	14–28	F.A.K.	Own.	40.00	4	5 x6	Ver.	1	"L"H.	900	Own.	Cent.	Bosch.	Yes	King 1½	Gra.	2-5G-25K	No.	Ben.
Allwork G	1595	3	2.75	4800	75	9′ 6″	13	Uni.	14–28	F.A.K.	Own.	36.10	4	4¾x6	Ver.	1	"L"H.	900	Own.	Cent.	Bosch.	Yes	King 1½	Gra.	2-5G-25K	No.	Ben.
Allwork D		4–5	2.75	6500	80	26′ 0″	14	Ver.	20–38	F.A.K.	Own.	40.00	4	5 x7	Ver.	1	"L"H.	900	Own.	Cent.	Bosch.	Yes	King 1⅝	Gra.	2-25G-5K	No.	Ben.
Aultman-Taylor		3–4	2.20	7800	98½	16′ 0″	13½	Hor.	15–30	F.A.K.	Climax	40.00	4	5 x6½	Ver.	2	"L"H.	900	Climax	Cent.	Eise.	Yes	King 1⅜	Gra.	2-6G-16K	No.	Ben.
Aultman-Taylor		4–6	2.20	12500	102	28′ 0″	12	Hor.	22–45	S.A.	Own.	48.40	4	5½x8	Hor.	2	IH.	600	Own.	Cent.	Eise.	Yes	King 2	Gra.	2-20G-50K	Yes	None.
Aultman-Taylor		8–10	2.20	22500	125	32′ 0″	13	Hor.	30–60	S.A.	Own.	78.40	4	7 x9	Hor.	2	IH.	550	Own.	Cent.	Eise.	Yes	King 2½	Gra.	2-20G-60K	Yes	None.
Avery		2–3	2.50	4900	98	11′ 0″	18	Hor.	8–16	S.A.	Own.	48.40	2	5½x6	Hor.	1	IH.	700	Own.	Cent.	K.W.	Yes	King 1¼	Gra.	2-2½G-13¾K	Yes	None.
Avery		3–4	2.50	4500	70			Hor.	15–	F.A.K.	Own.	32.40	4	4½x6	Hor.	4	IH.		Pick.	Cent.	K.W.	Yes	King 1¼	Gra.	2-2G-16K	No.	Ben.
Avery		3–4	2.50	7500	95	14′ 0″	18	Hor.	12–25	S.A.	Own.	33.80	2	6½x7	Hor.	1	IH.	700	Own.	Cent.	K.W.	Yes	King 1½	Gra.	2-3¼G-20K	Yes	.....
Avery		3–4	3.50	7540	96	12′ 0″	16	Hor.	14–28	F.A.K.	Own.	34.23	4	4⅝x7	Hor.	4	IH.	800	Own.	Cent.	K.W.	Yes	King 1¼	Gra.	2-3¼G-20K	Yes	.....
Avery		4–5	2.50	9750	97	14′ 6″	15	Hor.	18–36	S.A.	Own.	48.50	4	5½x6	Hor.	2	IH.	700	Own.	Cent.	K.W.	Yes	King 1½	Gra.	2-5½G-34K	Yes	.....
Avery		4–5	3.00	7500	80	12′ 0″	16	Hor.	20–35	F.A.K.	Own.	38.03	4	4¾x7	Hor.	4	IH.	700	Own.	Cent.	K.W.	Yes	King 1½	Gra.	2-3½G-30K	Yes	.....
Avery		5–6	4.00	12500	114	20′ 0″	16	Hor.	25–50	S.A.	Own.	67.60	4	6½x7	Hor.	2	IH.	700	Own.	Cent.	K.W.	Yes	King 2	Gra.	2-5G-50K	Yes	.....
Avery		8–10	3.00	22000	138	20′ 6″	20	Hor.	45–65	S.A.	Own.	96.10	4	7¾x8	Hor.	2	IH.	500	Own.	Cent.	K.W.	Yes	King 2	Gra.	2-5G-65K	Yes	.....
‡**Avery (Track Runner)**		3	2.66	5000		9′ 0″		Uni.		T.D.M.	Own.	25.60	4	4 x5½	Ver.	4	IH.	1000	Pharo.	Hyd.	K.W.	Yes	King 1¼	Gra.	2-2G-23K	No.	United
Avery (Motor Cult) C				3050			30	Hor.		F.A.K.	Own.	21.60	6	3 x4	Ver.	6	"L"H.	1250	Own.	Cent.	K.W.	Yes	King 1	Gra.	1-10G	No.	Ben.
Avery (Road Razer)				4600				Hor.		F.A.K.	Own.	21.60	6	3 x4	Ver.	6	"L"H.	1250	Own.	Cent.	K.W.	Yes	King 1	Gra.	1-20G	No.	Ben.
Bates (All Steel) D		3	2.50	4000	74	20′ 0″	28	Ver.	15–25	F.A.K.	Own.	28.90	4	4¼x6	Hor.	4	IH.	800	Own.	Cent.	Dixie.	Yes	Own 1½	Gra.	2-3G-15K	Yes	Own.
Bates (Steel Mule) H		3	3.00	3600	82½	20′ 0″	12	Hor.	15–25	F.A.K.	Midw	27.23	4	4¼x5¼	Ver.	2	IH.	1100	Dupl'x	Cent.	Bosch.	Yes	Ben. 1¼	Gra.	2-8G-10K		Own.
Bates (Steel Mule) F		3	3.00	4850	80	16′ 0″	12	Hor.	18–25	F.A.K.	Midw	27.23	4	4½x5¼	Ver.	2	IH.	1100	Dupl'x	Cent.	Bosch.	Yes	Ben. 1¼	Gra.	2-8G-10K		Own.
Bates (Steel Mule) G		4	3.00	6500	80½	13′ 6″	12	Hor.	25–35	F.A.K.	Midw	32.40	4	4½x6	Ver.	2	IH.	1000	Dupl'x	Cent.	Bosch.	Yes	King 1½	Gra.	1-26G		Own.
‡**Bates (Steel Mule)** 40				8500	84	14′ 0″	14	Hor.	30–40	T.D.M	Midw	36.10	4	4¾x6	Ver.	2	IH.	1000	Simp.	Cent.	Bosch	Yes	King 1½	Gra.	1-30G	No.	Pom.
Bear B		4	3.50	5500	64	12′ 0″	11	Uni.	25–35	T.D.M.	Searns	36.10	4	4¾x6½	Ver.	4	IH.	1190	Dupl'x	Cent.	Bosch.	Yes	Scheb 1½	Gra.	1-40G	No.	Pom.
Best 30		4	3.06	7845		5′ 6″	12	Hor.	18–30	T.D.M	Own.	36.10	4	4¾x6½	Ver.	1	IH.	800	Own.	Cent.	Bosch.	Yes	Ensign1½	Gra.	2-2½G-28K	No.	Pom.
Best 60		8	2.62	18190		7′ 0″	14	Hor.	35–55	T.D.M	Own.	67.60	4	6½x8½	Ver.	1	IH.	650	Own.	Cent.	Bosch.	Yes	Ensign 2	Vac.	2-2¾G-52K	No.	Pom.
Bryan Steam	2500	3	2.50	5500	88	14′ 0″	15	Hor.	15–30	F.A.K.	Own.	12.80	2	4 x5	Hor.	2		300	Pick.	Cent.				Pres.	1-30K	No.	None.
Case	1250	3	2.60	4230	65	24′ 0″	11½	Hor.	12–20	F.A.K.	Own.	27.23	4	4¼x5	Ver.	4	IH.	1050	Own.	Cent.	Bosch	Yes	King 1¼	Gra.	2-2¼G-17¼K	No.	Own.
Case	1490	3–4	2.75	6600	76½	27′ 3″	14	Hor.	15–27	F.A.K.	Own.	37.40	4	4½x6	Ver.	4	IH.	900	Own.	Cent.	Bosch.	Yes	King 1¾	Gra.	2-2¾G-20K	No.	Own.
Case	2650	4–6	2.60	10700	96	40′ 6″	15	Hor.	22–40	F.A.K.	Own.	48.40	4	5½x6¾	Ver.	2	IH.	850	Own.	Cent.	Bosch.	Yes	King 2	Gra.	2-3¾G-26¼K	Yes	Own.
Case	5200	8–10	2.60	21200	124	52′ 6″	16	Hor.	40–72	F.A.K.	Own.	78.40	4	7 x8	Ver.	2	IH.	750	Own.	Cent.	Bosch.	Yes	King 2½	Gra.	2-9G-52K	Yes	Own.
Caterpillar T35		3	3.00	4000		11′ 0″	11	Hor.	15–	T.D.M	Own.	25.60	4	4 x5½	Ver.	4	IH.	1000	Own.	Cent.	Eise.	Yes	King 1¼	Gra.	1-19G	No.	Dailey
‡**Caterpillar** T11		4	3.00	7400	83	14′ 0″	12	NonA.	25–	T.D.M.	Own.	36.10	4	4¾x6	Ver.	2	IH.	1050	Own.	Cent.	Eise.	Yes	Scheb 1½	Vac.	1-46-G	No.	Don.
‡**Caterpillar** T16		6	3.00	19500	98	18′ 0″	17	NonA.	40–	T.D.M	Own.	67.60	4	6½x7	Ver.	1	IH.	750	Own.	Cent.	K-W.	Yes	King 2	Vac.	1-46-G	No.	Don.
Cletrac F	745	2	3.00	1430		16′ 0″	8	Hor.	9–16	T.D.M.	Own.	16.90	4	3¼x4½	Ver.	4	"L"H.	1600	Own.	Cent.	Teagle	No.	Tillot 1	Gra.	2-1¼G-6K	No.	Own.
Cletrac W	1345	2	3.00	3455		12′ 0″	12	Hor.	12–20	T.D.M	Own.	25.60	4	4 x5½	Ver.	4	IH.	1265	Own.	Cent.	Teagle	Yes	King 1¼	Gra.	2-3¼G-11K	No.	Own.
‡‡**Eagle** F		3	2.00	5850	81		17	Hor.	12–22	S.A.	Own.	39.20	2	7 x8	Hor.	2	IH.	450	Pick.	Cent.			Scheb 1½	Gra.	2-4G-12K	Yes	Own.
‡‡**Eagle** E		4	2.00	9100	88		17	Hor.	16–30	F.A.K.	Own.	51.20	2	8 x8	Hor.	2	IH.	450	Pick.	Cent.			Scheb 1¾	Gra.	2-5G-18K	Yes	Own.
‡‡**E-B** AA		3	2.70	4550	87½	12′ 6″	11	Hor.	12–20	F.A.K.	Own.	36.10	4	4¾x5	Ver.	2	"L"H.	900	Own.	Cent.	K-W.		Strom 1½	Gra.	2-4G-20K	Yes	Ben.
‡‡**E-B** Q		3	2.26	6500	93	15′ 0″	15	Hor.	12–20	F.A.K.	Own.	36.10	4	4¾x5	Ver.	2	"L"H.	850	Pick.	Cent.	K-W.		Ben. 1¼	Gra.	2-4G-16K	Yes	Ben.
‡‡**E-B**		4	2.26	9400	126	22′ 0″	16	Hor.	16–32	S.A.	Own.	44.10	4	5¼x7	Ver.	2	"L"H.	750	Pick.	Cent.	Simms		Strom 1¾	Gra.	2-5G-35K	Yes	Ben.
Fageol	1175	2	2.33	3600	77			Hor.	9–12	F.A.K.	Lyco.	19.60	4	3½x5	Ver.	4	"L"H.	1200		Cent.	Dixie.	Yes	Tillot 1	Gra.	1-12G	No.	Own.
Fordson	395	2	2.75	2543	63	21′ 0″	11⅜	Hor.	–18	F.A.K.	Own.	25.60	4	4 x5	Ver.	4	"L"H.	1000			Own.	No.	Holley 1¼	Gra.	2-1½G-21K	Yes	Own.
Frick		2	2.30	5800	92	12′ 6″	15	Hor.	12–20	F.A.K.	Erd.	25.60	4	4 x6	Ver.	4	IH.	900	Erd.	Cent	K.W.	Yes	King 1¼	Gra.	2-3G-20K	No.	King.
Frick		3	2.13	6730	92	12′ 6″	16	Hor.	15–28	F.A.K.	Beav.	36.10	4	4¾x6	Ver.	4	IH.	900	Taco.	Cent	Dixie.	Yes	Ben. 1½	Gra.	2-3G-20K	No.	United
‡‡**Gray**		4	3.00	6200	140	12′ 6″	18	NonA.	20–36	F.A.K.	Wauk.	32.40	4	4½x6¼	Ver.	2	"L"H.	1000	Wauk.	Cent.	Bosch.		Ben. 1½	Gra.	1-35G	No.	Ben.
‡‡**Gray**	1975	4	3.00	6200		17′ 0″	16	NonA.	18–36	F.A.K.	Wauk.	36.10	4	4¾x6¾	Ver.	2	"L"H.	950	Wauk.	Cent.	Bosch.		Ben. 1½	Gra.	1-34G	No.	Ben.
Hart-Parr 20		2	3.00	3973	76	22′ 0″	11⅜	Hor.	–20	F.A.K.	Own.	24.20	2	5½x6½	Hor.	2	IH.	800	Own.	Cent.	K-W.	Yes	King 1½	Gra.	2-1G-14K	Yes	Own.
Hart-Parr 30		3	3.00	5220	83	24′ 0″	11⅜	Hor.	–30	F.A.K.	Own.	33.80	2	6½x7	Hor.	2	IH.	750	Own.	Cent.	K-W.	Yes	King 1½	Gra.	2-1G-23K	Yes	Own.
‡**Hart-Parr** (Road)		3	3.00	7560	83	24′ 0″	11⅜	Hor.	–30	F.A.K.	Own.	33.80	2	6½x7	Hor.	2	IH.	750	Own.	Cent.	K-W.	Yes	King 1½	Gra.	2-1G-23K	Yes	Own.
Heider D	628	2	2.50	4000	90	25′ 0″	12	Uni.	9–16	F.A.K.	Wauk.	28.90	4	4¼x5¾	Ver.	2	"L"H.	1000	Wauk.	Cent.	Dixie.	Yes	King 1	Gra.	2-7G-14K	Yes	Ben.
Heider C	725	3	2.50	6000	96	25′ 0″	12	Uni.	12–20	F.A.K.	Wauk.	32.40	4	4½x6¾	Ver.	2	"L"H.	900	Wauk	Cent.	Dixie.	Yes	King 1¼	Gra.	2-7G-14K	Yes	Ben.
Heider (Motor Cult)			2.50	2800	80	4′ 8″	30	Hor.	5–10	F.A.K.	LeRoi.	15.63	4	3½x4½	Ver.	4	"L"H.	1000	LeRoi.	Cent.	Dixie.	Yes	King ⅞	Gra.	1-9G	No.	Ben.
Huber (Light Four)	985	3	2.50	5000	91	12′ 0″	16	Uni.	12–25	F.A.K.	Wauk.	32.40	4	4½x5¾	Ver.	2	"L"H.	1000	Wauk.	Cent.	King.	Yes	King 1¼	Gra.	2-2½G-22K	Yes	United
Huber (Super 4)		3	2.80	6000	91	12′ 3″	16	Uni.	15–30	F.A.K.	Midw	32.40	4	4½x6	Ver.	2	IH.	1100	Taco.	Cent.	Eise.	Yes	King 1¼	Gra.	1-24½G	No.	United
International		2	2.75	3600	85	13′ 6″		Uni.	8–16	F.A.K.	Own.	28.90	4	4¼x5	Ver.	1	IH.	1000	Own.	Cent.	Dixie.	Yes	Ensign	Gra.	2-1½G-11½K	No.	Own.
International. (McC-D)		3	3.00	5500	85	15′ 0″	11	Uni.	15–30	F.A.K.	Own.	32.40	4	4½x6	Ver.	1	IH.	1000	Own.	Cent.	Split.	Yes	Ensign	Gra.	2-1G-17K	Yes	Own.
International		4	1.80	8700	94	19′ 0″		Uni.	15–30	F.A.K.	Own.	44.10	4	5¼x8	Hor.	2	IH.	575	Own.	Cent.	Split.	Yes	Own	Pres.	1-24K	Yes	Own.
‡‡**LaCrosse** M		1	2.50	3000	72	8′ 6″	30	Hor.	6–12	F.A.K.	Own.	12.80	2	4 x6	Hor.	2	IH.	1000	Own.	Cent.	A-K		King-1¼	Gra.	2-1G-13K	No.	.....
‡‡**LaCrosse** H		3	3.00	3800	90	9′ 6″	14	Hor.	12–24	F.A.K.	Own.	28.80	2	6 x7	Hor.	2	IH.	900	Own.	Cent.	A-K		King 1¾	Gra.	2-5G-25K	Yes	Ben.
Lauson S	1295	3	3.00	4200	78	13′ 0″		Hor.	12–25	F.A.K.	Midw	27.23	4	4½x5¼	Ver.	2	IH.	1200	Taco.	Cent.	Dixie.	Yes	King 1¼	Gra.	1-20G	No.	Taco.
Lauson T	1675	4	2.50	6200		14′ 0″	12	Hor.	15–30	F.A.K.	Beav.	36.10	4	4¾x6	Ver.	4	IH.	1000	Taco.	Cent.	Dixie.	Yes	King 1⅝	Gra.	2-5G-15K	No.	Taco.
Leader B		2	2.50	4800	84	15′ 0″	18	Hor.	12–18	F.A.K.	Own.	28.80	2	6 x6¼	Opp.	1	"L"H.	800	Own.	Cent.	King.	Yes	King 1½	Gra.	2-2½G-18K	Yes	Own.
Leader N		3–4	2.25	5800	76	15′ 0″	8	Hor.	16–32	F.A.K.	Climax	40.00	4	5 x6	Ver.	2	"L"H.	800	Climax	Cent.	Eise.	Yes	Strom 1½	Gra.	2-3½G-30K	No.	Ben.
Leader GU		3–4	2.25	6800		6′ 0″	11	Hor.	16–32	F.A.K.	Climax	40.00	4	5 x6	Ver.	2	"L"H.	800	Climax	Cent.	Eise.	Yes	Strom 1½	Gra.	2-3½G-30K	No.	Ben.
Lincoln A	1600	3	2.50	5000	90	30′ 0″	15	Ver.	15–30	F.A.K.	Buda.	32.40	4	4½x6	Ver.	4	"L"H.	950	Pierce.	Cent.	Split.	Yes	Strom 1¼	Gra.	2-5G-20K	No.	Stayn.
Little Giant B		4	2.50	5200	87	14′ 0″	12½	Hor.	16–22	F.A.K.	Own.	32.40	4	4½x5	Ver.	2	"L"H.	900	Own.	Cent.	King.	Yes	King 1½	Gra.	2-5G-25K	No.	Don.
Little Giant A		6	2.50	8700	102	16′ 0″	14½	Hor.	26–35	F.A.K.	Own.	48.40	4	5½x6	Ver.	2	"L"H.	700	Pick.	Cent.	King.	Yes	King 2	Gra.	2-5G-20K	No.	Don.
‡‡**Lombard**		12-16		19000	168	23′ 0″	10	Hor.	–100	F.A.K.	Own	79.35	6	5¾x7	Ver.	2	"L"H.	1200	Special	Cent.	Special		Special	Vac.	1-65G	No.	.....
‡‡**London**		3	2.40		83	9′ 0″		Uni.	12–25		Midw	27.23	4	4¼x5¼	Ver.	4	I.H.	1200	Taco.	Cent	K-W.		Colum1¼	Gra.	1-24G	No.	.....
‡‡**Minneapolis**		3	2.21	6600	100	17′ 1″		Hor.	12–25	F.A.K.	Own.	32.40	4	4½x7	Ver.	4	"L"H.	750	Own	Cent.	K-W.		King 1½		2-3G-18.3K	Yes	Ben.
‡‡**Minneapolis**		3–4	2.75	6400	79⅞	13′ 6″		Uni.	17–30	F.A.K.	Own.	36.10	4	4¾x7	Ver.		"L"H.	775	Own.	Cent.	Dixie		King 1¾		2-6G-18K		Ben.
‡‡**Minneapolis**		4–5	2.70	12410	109½	15′ 3″			22–44	S.A.	Own.	37.60	4	6 x7	Ver.	2	"L"H.	700	Own.	Cent.	K-W.		King 2		2-9G-30K		.....
‡‡**Minneapolis**		8–10	2.10	22500	136	20′ 6″		NonA.	35–70	S.A.	Own.	87.52	4	7¼x9	Ver.	2	"L"H.	550	Own.	Cent.	K-W.		King 2½		2-20G-80K		.....
Moline. (Universal D3)	650	2–3	3.25	3380	...	16′ 0″	29	Uni.	9–18	Special	Own	19.60	4	3½x5	Ver.	4	IH.	1400	Remy.	Elec.	Remy.	No.	Holley 1¼	Gra.	1-15G	No.	Ben.
Moline. (Orchard D)	650	2–3	3.00	3340	.....	16′ 0″	19	Uni.	9–18	Special	Own	19.60	4	3½x5	Ver.	4	IH.	1400	Remy.	Elec.	Remy	No.	Holley 1¼	Gra.	1-15G	No.	Ben.

ABBREVIATIONS:

‡—Industrial Tractor

‡‡—Taken from 1922 Specifications

Drawbar Type:
Hor—Horizontal
Ver—Vertical
Uni—Universal
Non-A—Non-Adjustable

Steering Gear Type:
F. A. K.—Front Axle Knuckle
S. A.—Swinging Axle
T. D. M.—Thru Driving Members

ENGINE:
Midw—Midwest
Lyco—Lycoming
Beav—Beaver
Wauk—Waukesha
Weid—Weidley
Wis—Wisconsin
Ver—Vertical
Hor—Horizontal
Opp—Opposed
"L" H—"L" Head
"T" H—"T" Head
I. H.—In Head
Pick—Pickering
Cent—Centrifugal
Elec—Electrical
Suct—Suction
Hyd—Hydraulic
Eise—Eisemann
Split—Splitdorf
A-K—Atwater-Kent
King—Kingston
Ben—Bennett
Strom—Stromberg
Tillot—Tillotson
Scheb—Schebler
Colum—Columbia
Gra—Gravity
Pres—Pressure
Vac—Vacuum
G—Gasoline
K—Kerosene
Stayn—Staynew
Rains—Rainstrom
Don—Donaldson
Ben—Bennett

Tractor Specifications

ENGINE						CLUTCH		BELT PULLEY				TRANSMISSION														
Oiling System		Cooling System																								
Type of System	Type of Pump	Make of Radiator	Circulation By	Capacity of System (Gals.)	Fluid	Make	Type	Diameter (Ins.)	Face (Ins.)	Normal R.P.M.	Clutch Type	Make	Type	Number of Forward Speeds	Final Drive	Diameter and Face Traction Members (Ins.)	Drive from Gearset to Traction Members	Drive Taken Through	Drive Wheel Axle Type	Does Differential Lock?	Type: Drive Shaft Axle Bearings	Individual Brakes for Steering?	Individual Clutches for Steering?	Number of Non-Drive Wheels	Frame Type	MAKE AND MODEL
Cir.Spl.	Pist.	Own.	Th-S.	3½	W.	B&B.	S.P.	10	5½	1000	None	Own.	S.G.	1	Wheel.	48– 6	S.&I.G.	Rim.	Dead.	No.	Plain.	No.	No.	2	No F.	Allis-Chalmers
Hol. Crk.	Gear.	Own.	Pump.	10	W.	Own.	E.S.	12½	6½	817	None	Own.	S.G.	2	Wheel.	46–12	I.G.	Rim.	Rev.	No.	Roller.	No.	No.	2	No F.	Allis-Chalmers
Hol.Crk.	Gear.	Own.	Pump.	10	W.	Own.	E.S.	13	7½	930	None	Own.	S.G.	2	Wheel.	50–12	I.G.	Rim.	Rev.	No.	Roller.	No.	No.	2	No F.	Allis-Chalmers
Cir.Spl.	Ecc.	Perf.	Pump.	12	W.	Own.	M.D.D.	13¾	7½	900	M.D.D.	Own.	S.G.	3	Wheel.	48–12	S.G.	Rim.	Rev.	No.	Roller.	No.	No.	2	Roll.	Allwork C
Cir.Spl.	Ecc.	Perf.	Pump.	10	W.	Own.	M.D.D.	11	7	900	M.D.D.	Own.	S.G.	3	Wheel.	48–12	S.&WG	Rim.	Rev.	No.	Roller.	Yes.	No.	2	Roll.	Allwork G
Hol.Crk.	Gear.	Perf.	Pump.	12	W.	Own.	M.D.D.	14	7½	900	M.D.D.	Own.	S.G.	3	Wheel.	48–14	S.G.	Rim.	Rev.	No.	Roller.	No.	No.	2	Roll.	Allwork D
Hol.Crk.	Gear.	G&O.	Pump.	8	W.	T.Disc.	S.P.	20	8	450	S.P.	Own.	S.G.	1	Wheel.	70–12	S.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	Aultman-Taylor
M.F.M.O.	Pist.	Own.	Pump.	80	W.	Own.	C.B.	20	11	600	E.S.	Own.	S.G.	2	Wheel.	70–20	S.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	Aultman-Taylor
M.F.M.O.	.....	Own.	Pump.	120	W.	Own.	C.B.	24	11	550	E.S.	Own.	.....	1	Wheel.	90–24	S.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	Aultman-Taylor
Cir.Spl.	Gear.	Own.	Th-S.	12½	W.	Own.	M.D.D.	17½	7	750	E.S.	Own.	.....	2	Wheel.	50–12	S.G.	Spokes	Rev.	No.	Plain.	No.	No.	2	Roll.	Avery
M.F.M.O.	Gear.	Own.	Pump.	.....	W.	Own.	M.D.D.	16	7¾	900	M.D.D.	Own.	S.G.	2	Wheel.	50–12	S.G.	Axle.	Live.	No.	Ball.	Yes.	No.	2	Roll.	Avery
Cir Spl.	Gear.	Own.	Th-S.	17½	W.	Own.	M.D.D.	19½	7	700	E.S.	Own.	.....	2	Wheel.	56–20	S.G.	Spokes	Rev.	No.	Plain.	No.	No.	2	Roll.	Avery
Cir.Spl.	Gear.	Own.	Th-S.	30	W.	Own.	M.D.D.	16	7½	600	M.D.D.	Own.	.....	2	Wheel.	60–16	S.G.	Spokes	Rev.	No.	Plain.	Yes.	No.	2	Roll.	Avery
Cir.Spl.	Gear.	Own.	Th-S.	33	W.	Own.	M.D.D.	18	8	700	M.D.D.	Own.	.....	2	Wheel.	65–20	S.G.	Spokes	Rev.	No.	Plain.	No.	No.	2	Roll.	Avery
M.F.M.O.	Gear.	Own.	Pump.	.....	W.	Own.	M.D.D.	16	7½	900	M.D.D.	Own.	S.G.	2	Wheel.	.....	S.G.	Spokes	Rev.	No.	Plain.	No.	No.	2	Roll.	Avery
M.F.M.O.	Gear.	Own.	Pump.	55	W.	Own.	M.D.D.	22	8½	700	M.D.D.	Own.	S.G.	2	Wheel.	69–20	S.G.	Spokes	Rev.	No.	Plain.	No.	No.	2	Roll.	Avery
M.F.M.O.	Gear.	Own.	Pump.	.....	W.	Own.	M.D.D.	26	10	600	M.D.D.	Own.	S.G.	2	Wheel.	87½–24	S.G.	Spokes	Rev.	No.	Plain.	No.	No.	2	Roll	Avery
Hol.Crk.	Gear.	Own.	Pump.	6¾	W.	T.Disc.	S.P.	12	6½	1000	.....	Own.	S.G.	3	Track.	–8½	S.G.	Spokes	Rev.	No.	Ball.	Yes.	Yes.	0	Roll.	‡Avery (Track Runner)
Cir.Spl.	Gear.	Own.	Th-S.	6¾	W.	Own.	M.D.D.	10	5¼	.....	.....	Own.	S.G.	3	Wheel.	42– 6	S.G.	Spokes	Dead.	No.	Roller.	Yes.	No.	1	Roll.	Avery (Motor Cult) C
Cir.Spl.	Gear.	Own.	Th-S.	6¾	W.	Own.	M.D.D.	.....	.....	.....	.....	Own.	S.G.	3	Wheel.	42– 6	S.G.	Spokes	Dead.	No.	Roller.	Yes.	No.	1	Roll.	Avery (Road Racer)
Hol.Crk.	Gear.	Own.	Pump.	5	W.	Own.	C.B.	10	7	800	E.S.	Own.	S.G.	3	Wheel.	50–12	I.G.	Rim.	Dead.	No.	Roller.	No.	No.	2	Roll.	Bates (All Steel) D
Hol.Crk.	Gear.	Perf.	Pump.	6	W.	B&B.	S.P.	12	8½	850	S.P.	Own.	S.G.	2	Wheel.	48–10	S.G.	Axle.	Dead.	No.	Roller.	.....	.....	2	Roll.	Bates (Steel Mule) H
Hol.Crk.	Gear.	Perf.	Pump.	6	W.	B&B.	S.P.	12	8½	850	S.P.	Own.	S.G.	2	Track.	–10	S.G.	Axle.	Dead.	Yes.	Roller.	Yes.	No.	2	Roll.	Bates (Steel Mule) F
Hol.Crk.	Gear.	Perf.	Pump.	10	W.	T.Disc.	S.P.	12	8½	850	S.P.	Own.	S.G.	2	Track.	–10	S.G.	Axle.	Dead.	Yes.	Roller.	Yes.	No.	2	Roll.	Bates (Steel Mule) G
Hol.Crk.	Gear.	Perf.	Pump.	10	W.	B&B.	M.D.D.	12	8½	850	.....	Own.	S.G.	3	Track.	–84	S.G.	.....	.....	.....	Roller.	Yes.	Yes	.....	Roll.	‡Bates (Steel Mule) 40
Hol.Crk.	Gear.	Mod.	Pump.	14	W.	M&E.	M.D.D.	12	9	1190	None.	Own.	S.G.	3	Track.	–12	I.G.	Axle.	.....	.....	Ball.	Yes.	Yes.	0	Roll.	Bear B
Hol.Crk.	Gear.	Own.	Pump.	15	W.	Own.	M.D.D.	12	7	800	None.	Own.	S.G.	2	Track.	–11½	B.G.	.....	.....	.....	Roller.	Yes.	Yes.	0	No. F.	Best 30
Cir.Spl.	Gear.	Own.	Pump.	18	W.	Own.	S.P.	16	10	650	None.	Own.	S.G.	2	Track.	–20	SG-BG.	.....	.....	.....	Roller.	Yes.	.....	.....	No. F	Best 60
M.F.M.O.	Pist.	.....	.....	.....	.....	None.	.....	18	7	300	None.	Own.	S.G.	Var.	Wheel.	52–12	S.G.	Axle.	Live.	Yes.	Roller.	No.	No.	2	Roll.	Bryan Steam
Hol.Crk.	Gear.	Own.	Pump.	10	W.	T.Disc.	S.P.	14¼	6¾	1050	S.P.	Own.	S.G.	2	Wheel.	42–12	S.G.	Spokes	Live.	Yes.	Roller.	No.	No.	2	No. F	Case
Hol.Crk.	Pist.	Own.	Pump.	11	W.	B&B.	S.P.	16	6½	900	S.P.	Own.	S.G.	2	Wheel.	52–14	S.G.	Spokes	Live.	Yes.	Roller.	No.	No.	2	No. F	Case
Hol.Crk.	Gear.	Cwn.	Pump.	15½	W.	Own.	E.S.	16½	8½	850	E.S.	Own.	S.G.	2	Wheel.	56–16	S.G.	Spokes	Rev.	Yes.	Roller.	No.	No.	2	Roll.	Case
Hol.Crk.	Gear.	Own.	Pump.	.....	W.	T.Disc.	S.P.	19½	10½	750	S.P.	Own.	S.G.	2	Wheel.	72–20	S.G.	Spokes	Rev.	Yes.	Roller.	No.	No.	2	Roll.	Case
Hol.Crk.	Gear.	Own.	Pump.	6	W.	Own.	M.D.D.	11½	6½	1000	S.G.	Own.	S.G.	3	Track.	.....	S.G.	.....	Dead.	None	Roller.	Yes.	Yes.	0	No. F.	Caterpillar T35
Hol.Crk.	Gear.	Own.	Pump.	7½	W.	Own.	M.D.D.	12	8½	1000	J.C.	Own.	S.G.	3	Track.	.....	S.G.	.....	Dead.	None	Roller.	Yes.	Yes.	0	No. F.	‡Caterpillar T11
Hol.Crk.	Gear.	Own.	Pump.	13½	W.	Own.	M.D.D.	14	10½	850	J.C.	Own.	S.G.	3	Track.	.....	S.G.	.....	Dead.	None	Roller.	Yes.	Yes.	0	No. F.	‡Caterpillar T16
Cir.Spl.	Gear.	McC.	Pump.	3⅜	W.	B&B.	S.P.	7	5	1600	None.	Own.	S.G.	1	Track.	–5½	S.G.	Axle.	.....	No.	Ball.	Yes.	No.	0	No. F	Cletrac F
Hol.Crk.	Gear.	McC.	Pump.	.....	W.	B&B.	S.P.	8	6	1265	None.	Own.	S.G.	1	Track.	–8	S.G.	Axle.	.....	No.	Roller.	Yes.	No.	0	Roll.	Cletrac W
M.F.M.O.	Ecc.	Perf.	Pump.	12	W.	Own.	E.S.	.....	.....	.....	.....	Own.	S.G.	2	Wheel.	48–12	S.G.	Rim.	Rev.	No.	.....	No.	No.	2	Roll.	‡‡Eagle F
M.F.M.O.	Ecc.	Perf.	Pump.	15	W.	Own.	E.S.	.....	.....	.....	.....	Own.	S.G.	2	Wheel.	52–12	S.G.	Rim.	Rev.	No.	.....	No.	No.	2	Roll.	‡‡Eagle E
Cir.Spl.	Pist.	Mod.	Pump.	7½	W.	Own.	Cone.	.....	.....	.....	.....	Own.	S.G.	.....	Wheel.	54–12	I.G.	Spokes	Rev.	No.	Plain.	No.	No.	2	Roll.	‡‡E-B AA
Cir.Spl.	Pist.	Perf.	Pump.	9	W.	Own.	Cone.	.....	.....	.....	.....	Own.	S.G.	3	Wheel.	60–12	I.G.	Spokes	Dead.	No.	Plain.	No.	No.	2	Roll.	‡‡E-B Q
Cir.Spl.	Pist.	Mod.	Pump.	10	W.	Own.	Cone.	.....	.....	.....	.....	Own.	S.G.	2	Wheel.	72–16	I.G.	Spokes	Dead.	Yes.	Plain.	No.	No.	2	Roll.	‡‡E-B .....
Cir.Spl.	Pist.	Mod.	Pump.	.....	W.	Own.	E.S.	.....	.....	.....	.....	Own.	J.C.	1	Wheel.	48–8½	S.G.	Axle.	Live.	Yes.	Roller.	Yes.	Yes.	2	Roll.	Fageol .....
Cir.Spl.	Own.	Own.	Th-S.	12	W.	Own.	M.D.D.	9½	6½	1000	.....	Own.	J.C.	3	Wheel.	42–12	Worm.	Axle.	Live.	No.	Roller.	No.	No.	2	No. F	Fordson .....
Cir.Spl.	Pist.	Perf.	Pump.	7¾	W.	Own.	E.S.	13	7	900	.....	Nutt.	S.G.	2	Wheel.	60–10	S.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	Frick .....
Hol.Crk.	Gear.	Perf.	Pump.	9¾	W.	Own.	E.S.	13	7	900	.....	Nutt.	S.G.	2	Wheel.	60–12	S.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	Frick .....
Cir.Spl.	Gear.	.....	Pump.	10	W.	Own.	Cone.	.....	.....	.....	.....	Own.	S.G.	2	Drum.	54–54	Chain.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	‡‡Gray .....
Cir.Spl.	Gear.	.....	Pump.	8	W.	Own.	Cone.	.....	.....	.....	.....	Own.	S.G.	2	Drum.	54–54	Chain.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	‡‡Gray .....
M.F.M.O.	Pist.	Perf.	Pump.	7¾	W.	Own.	C.B.	13	6½	800	C.B.	Own.	S.G.	2	Wheel.	46–10	I.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	Hart-Parr 20
M.F.M.O.	Pist.	Perf.	Pump.	11	W.	Own.	C.B.	14	8¼	750	C.B.	Own.	S.G.	2	Wheel.	52–10	I.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	Hart-Parr 30
M.F.M.O.	Pist.	Perf.	Pump.	11	W.	Own.	C.B.	14	8¼	750	C.B.	Own.	S.G.	2	Wheel.	52–18	I.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	‡Hart-Parr (Road)
Cir.Spl.	Gear.	Perf.	Pump.	10	W.	Own.	F.D.	12	6	750	F.D.	Own.	Fric.	7	Wheel.	54– 8	S.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Press.	Heider D
Cir.Spl.	Gear.	Perf.	Pump.	7	W.	Own.	F.D.	14	7	725	F.D.	Own.	Fric.	7	Wheel.	57–10	S.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Press.	Heider C
Cir.Spl.	Pist.	Perf.	Th-S.	10	W.	Own.	F.D.	8	5	750	F.D.	Own.	Fric.	7	Wheel.	46– 6	Chain.	Rim.	Dead.	No.	Roller.	Yes.	No.	2	Press.	Heider (Motor Cult)
Cir.Spl.	Gear.	Perf.	Pump.	8	W.	Own.	E.S.	13	7	1000	E.S.	Own.	S.G.	2	Wheel.	60–10	S.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	Huber (Light Four)
Hol.Crk.	Gear.	Perf.	Pump.	11½	W.	Own.	M.D.D.	13	7	1100	M.D.D.	Own.	S.G.	2	Wheel.	60–10	S.G.	Rim.	Rev.	No.	Plain.	No.	No.	2	Roll.	Huber (Super 4)
Cir.Spl.	Pist.	.....	Th-S.	11	W.	Own.	M.D.D.	12½	8½	625	M.D.D.	Own.	S.G.	3	Wheel.	40–12	Chain.	Spokes	Dead.	Yes.	Roller.	No.	No.	2	Roll.	International .....
Cir.Spl.	Gear.	Own.	Th-S.	.....	W.	Own.	M.D.D.	16¾	8	595	M.D.D.	Own.	S.G.	3	Wheel.	50–12	S.G.	Axle.	Live.	Yes.	Roller.	No.	No.	2	No. F.	International (Mc-CD)
M.F.M.O.	.....	.....	Pump.	40	W.	Own.	F.D.	18	9	575	F.D.	Own.	S.G.	2	Wheel.	66–14	Chain.	Spokes	Dead.	Yes.	Roller.	No.	No.	2	Roll.	International .....
M.F.M.O.	Pist.	Mod.	Pump.	8	W.	Own.	.....	.....	.....	.....	.....	Own.	Fric.	1	Wheel.	48– 7	I.G.	Rim.	Dead.	Yes.	Plain.	No.	No.	2	Roll.	‡‡LaCrosse M
M.F.M.O.	Pist.	Mod.	Pump.	10	W.	Own.	C.B.	.....	.....	.....	C.B.	Own.	S.G.	1	Wheel.	56–10	I.G.	Rim.	Rev.	Yes.	Roller.	Yes.	No.	2	No. F.	‡‡LaCrosse H
Hol.Crk.	Gear.	Perf.	Pump.	.....	W.	T.Disc.	S.P.	15	.....	680	S.P.	Own.	S.G.	2	Wheel.	.....	S.G.	Spokes	Rev.	No.	Roller.	Yes.	No.	2	Roll.	Lauson S
Hol.Crk.	Gear.	Perf.	Pump.	.....	W.	Own.	E.S.	16¾	.....	500	E.S.	Own.	S.G.	2	Wheel.	.....	S.G.	Rim.	Rev.	No.	Roller.	Yes.	No.	2	Roll.	Lauson T
Cir.Spl.	Ecc.	Perf.	Pump.	10	W	Own.	E.S.	14	7	800	Fric.	Own.	S.G.	2	Wheel.	50–12	I.G.	Spokes	Dead.	No.	Plain.	No.	No.	2	Roll.	Leader B
Hol.Crk.	Gear.	Own.	Pump.	15	W	B&B.	S.P.	14	7¼	800	None.	Own.	S.G.	2	Wheel.	52–12	I.G.	Rim.	Rev.	No.	Roller.	No.	No.	2	Roll.	Leader N
Hol.Crk.	Gear.	Own.	Pump.	15	W.	B&B.	S.P.	14	7½	800	None.	Own.	S.G.	2	Track.	–12	Chain.	.....	.....	No.	Roller.	No.	Yes.	0	Roll.	Leader GU
Hol.Crk.	Gear.	Mod.	Pump.	10	W	B&B.	S.P.	12	7	693	J.C.	Own.	S.G.	3	Track.	–14	S.G.	.....	Dead.	No.	Roller.	No.	No.	2	Roll.	Lincoln A
Cir.Spl.	Gear.	S-J.	Pump.	8	W.	Own.	Cone.	10	7	900	E.S.	Own.	S.G.	3	Wheel.	54–14	S.&I.G.	Rim.	Dead.	No.	Roller.	No.	No.	2	Roll.	Little Giant B
Cir Spl.	Gear.	S-J.	Pump.	12	W.	Own.	Cone.	9	13½	750	E.S.	Own.	S.G.	3	Wheel.	66–20	S.&I.G.	Rim.	Dead.	No.	Roller.	No.	No.	2	Roll.	Little Giant A
Hol.Crk.	Gear.	Special	Pump.	.....	W	Own.	M.D.D.	.....	.....	.....	.....	Spec.	J.C.	3	Track.	–12	Worm.	Axle.	.....	No.	Roller.	No.	No.	2	Roll.	‡‡Lombard .....
Hol.Cer.	Gear.	S-J.	Pump.	6	W	Detl.	M.D.D.	14	8	1000	.....	Foote	J.C.	2	Wheel.	48–12	I.G.	.....	.....	.....	.....	.....	.....	2	Roll.	‡‡London .....
M.F.M.O.	.....	S-J.	Pump.	8⅜	W	.....	.....	15	6½	.....	.....	Own.	S.G.	2	Wheel.	56–12	.....	Axle.	Live.	.....	.....	No.	No.	2	Roll.	‡‡Minneapolis .....
M.F.M.O.	.....	S-J.	Pump.	8½	W.	Own.	M.D.D.	15½	7½	.....	.....	Own.	S.G.	2	Wheel.	54–12	.....	Axle.	Live.	.....	.....	No.	No.	2	Roll.	‡‡Minneapolis .....
M.F.M.O.	.....	S-J.	Pump.	14	W.	Own.	M.D.D.	18½	10	.....	.....	Own.	S.G.	2	Wheel.	62–10	.....	Axle.	Live.	.....	.....	No.	No.	2	Roll.	‡‡Minneapolis .....
M.F.M.O.	.....	S-J.	Pump.	60	W.	.....	.....	.....	.....	.....	.....	Own.	S.G.	2	Wheel.	85–30	.....	Axle.	Live.	.....	.....	No.	No.	2	Roll.	‡‡Minneapolis .....
Hol.Crk.	Gear.	Mod.	Th-S.	6	W.	B&B.	S.P.	9	6½	1200	S.P.	Own.	S.G.	1	Wheel.	52– 8	I.G.	Spokes	Dead.	Yes.	Roller.	Yes.	No.	0	No. F.	Moline (Universal D3)
Hol.Crk.	Gear.	Mod.	Th-S.	5	W.	B&B.	S.P.	9	6½	1200	S.P.	Own.	S.G.	1	Wheel.	44– 8	I.G.	Spokes	Dead.	Yes.	Roller.	Yes.	No.	0	No. F.	Moline (Orchard D)

Pom—Pomona
King—Kingston
Cir. Spl.—Circulating Splash
Hol. Crk.—Hollow Crank Shaft with Pressure and Oil Crankshaft Bearings
M. F. M. O.—Multi-Feed Mechanical Oiler
Pist—Piston
Ecc—Eccentric
McC—McCord

Perf—Perfex
Mod—Modine
McC—McCord
S-J—Shotwell-Johnson
Brem—Bremmer
Th-S—Thermo Siphon
W—Water
O—Oil

CLUTCHES:
B. & B.—Borg & Beck

Detl—Detlaff
T.-Disc—Twin-Disc
M. & E.—Merchant & Evans
S. P.—Single Plate
E. S.—Expanding Shoe
M. D. D.—Multiple Dry Disk
C. B.—Contracting Band
F. D.—Friction Drum
Fric—Friction
J. C.—Jaw Clutch
Spec—Special

TRANSMISSION:
Nutt—Nuttall
Full—Fuller
S. G.—Sliding Gear
J. C.—Jaw Clutch

TYPE:
FINAL DRIVE:
S. & I. G.—Spur and Internal Gear
Fric—Friction

I. G.—Internal Gear
S. G.—Spur Gear
SG.-BG.—Spur Gear and Bevel Gear
S. & W. G.—Spur and Worm Gear
Rev—Revolving
B.& R.—Ball and Roller
No. F.—No Frame

American Agricultural Tractor

MAKE AND MODEL	GENERAL										ENGINE															
																	Governor		Ignition		Fuel System					
	Price	Capacity: No. of 14" Plows	Plowing Speed (M.P.H.)	Wgt. Complete (Lbs.)	Wheel Base (Ins.)	Minimum Turning Diameter (Ft.)	Ground Clearance (Ins.)	Drawbar Type	Drawbar—Belt Rating	Steering Type	Make	Rated Horsepower (N.A.C.C.)	Number Cylinders	Bore and Stroke	Engine Type	No. of Cyls. per Casting	Valve Arrangement	Normal R.P.M. at Plowing Speed	Make	Type	Make of System	Impulse Starter Fitted?	Make and Size of Carbureter (Ins.)	Fuel Feed	Number and Capacity of Fuel Tanks (gals.)	Water Injected?	Make of
‡Monarch.....C-30-20	3700	4	2.40	8700	.....	14′ 0″	16	Hor....	20–30	T.D.M.	Beav..	36.10	4	4¾x6	Ver..	4	I.H...	1050	Taco..	Cent.	K-W..	Yes.	King 1½..	Gra..	2-5G-20K....	Yes.	Ben.
‡Monarch.....E-4-40	4200	....	....	12000	.....	14′ 0″	16	Hor....	25–40	T.D.M.	Beav..	36.10	4	4¾x6	Ver..	4	I.H...	1200	Pharo.	Hyd.	Bosch.	Yes.	Strom 1¾	Vac..	1-45G.....	Yes.	Ben.
‡Monarch.....D-6-60	5500	....	....	15000	.....	16′ 0″	12	Hor....	35–60	T.D.M.	Beav..	54.15	6	4¾x6	Ver..	2	I.H...	1200	Pharo.	Hyd.	Bosch.	Yes.	Strom 1¾	Vac..	1-45G.....	Yes.	Ben.
Nichols-Shepard.....	2650	4	2.50	13500	102	.....	....	Hor....	20–42	F.A.K.	Own..	51.20	2	8 x10	Hor..	1	IH....	450	Pick..	Cent.	Dixie..	Yes.	King 2...	Gra..	2-6G-23K...	Yes.	....
Nichols-Shepard.....	3000	6	2.50	20500	111	.....	....	Hor....	25–50	F.A.K.	Own..	39.20	2	9 x12	Hor..	1	IH....	375	Pick..	Cent.	Dixie..	Yes.	King 2½.	Gra..	2-6½G-40K..	Yes.	....
Nichols-Shepard.....	3650	8	1.80	30000	135	.....	....	Hor....	35–70	F.A.K.	Own..	.....	2	.....	Hor..	1	IH....	300	Pick..	Cent.	Dixie..	Yes.	King 3...	Gra..	2-8½G-40K..	Yes.	....
OilPull.....	....	3	2.90	6682	80	14′ 0″	13⅞	Hor....	12–20	F.A.K.	Own..	28.80	2	6 x8	Hor.	2	IH....	560	Own..	Cent.	Bosch.	Yes.	Own 2¼..	Pres..	2-1G-23K....	Yes.	Dor.
OilPull.....	....	4	2.10	9600	92½	17′ 0″	15½	Hor....	16–30	F.A.K.	Own..	39.20	2	7 x8½	Hor.	2	IH....	530	Own..	Cent.	Bosch.	Yes.	Own 2½..	Pres..	2-1G-31K....	Yes.	Dor.
OilPull.....	....	6	2.00	12820	103	21′ 0″	17⅜	Hor....	20–40	F.A.K.	Own..	51.20	2	8 x10	Hor..	1	IH....	450	Own..	Cent.	Bosch.	Yes.	Own 2¾..	Pres..	2-1G-45K....	Yes.	Dor.
OilPull.....	....	8–10	1.90	26700	141	.....	15	Hor....	30–60	S.A....	Own..	80.00	2	10 x12	Hor..	1	IH....	375	Own..	Cent.	Bosch.	No..	Own 3¼..	Pres..	2-3G-70K....	Yes.	None
Pioneer.....G	....	4	2.50	6500	89	24′ 0″	14	Hor....	18–36	F.A.K.	Own..	48.40	4	5½x6	Hor..	2	"L"H.	750	Pierce.	Cent.	K-W..	Yes.	King 2...	Gra..	1-25G.....	Yes.	Ben.
Pioneer.....C	....	10	2.25	24000	156	40′ 0″	24	Non.A..	40–75	F.A.K.	Own..	78.40	4	7 x8	Hor.	2	"L"H.	625	Own..	Cent.	K-W..	Yes.	King 2½..	Gra..	2-70G-30K...	Opt.	Ben.
‡‡Russell.....(Junior)	....	2– 3	3.70	.....	92	13′ 0″	....	Hor....	12–24	.....	Wauk.	32.40	4	4½x5¾	Ver..	2	"L"H.	1000	Wauk.	Cent.	Split..	.....	King 1¼..	Gra..	2-3G-18K....	Yes.	Ben.
Russell...(Little Boss)	....	3– 4	2.40	6000	96¼	29′ 6″	13	Hor....	15–30	F.A.K.	Climax	40.00	4	5 x6½	Ver..	2	"L"H.	950	Climax	Cent.	Bosch.	Yes.	King 1½..	Gra..	2-3½G-21½K	Yes.	Ben.
Russell.....(Big Boss)	....	4– 5	2.40	8900	109	33′ 6″	13½	Hor....	20–40	F.A.K.	Climax	48.40	4	5½x7	Ver..	2	"L"H.	900	Climax	Cent.	Bosch.	Yes.	King 1½..	Gra..	2-5G-30K....	Yes.	Ben.
Russell.....(Giant)	....	8–10	2.00	22550	149	38′ 0″	15	Hor....	30–60	S.A....	Own..	102.40	1	8 x10	Ver..	1	"L"H.	525	Pick..	Cent.	Bosch.	Yes.	King 2...	Gra..	2-22G-88K...	Yes.	Ben.
‡Shaw-Enochs (Grader)	....	....	....	4400	153½	.....	....	Uni....	.....	S.A....	LeRoi.	15.63	4	3⅛x4½	Ver..	4	"L"H.	1200	LeRoi.	Cent.	Eise...	No..	Scheb 1..	Gra..	1-20G.....	No..	Unite
Stinson.....	1635	3– 4	3.00	7100	114	12′ 0″	....	Ver....	18–36	F.A.K.	Beav..	36.10	4	4¾x6	Ver..	4	IH....	1000	Taco..	Cent.	Dixie..	Yes.	King 1⅜..	Gra..	2-6G-26K....	No..	Rain
Titan.....	....	3	2.75	5710	91	14′ 0″	....	Uni....	10–20	F.A.K.	Own..	37.80	2	6½x8	Hor..	2	IH....	575	Own..	Cent.	Eise...	Yes.	Ensign...	Pres..	1-16K.....	Yes.	Own
‡Topp-Stewart.....	3500	4	2.50	7800	100	12′ 0″	12	Hor....	30–45	S.A....	Wauk.	36.10	4	4¾x6¾	Ver..	2	"L"H.	950	Wauk.	Cent.	Eise...	Yes.	Strom 1½	Gra..	1-25G.....	No..	Ben.
Toro.....	675	2	2.75	2900	....	.....	....	Uni....	6–10	F.A.K.	LeRoi.	15.63	4	3⅜x4½	Ver..	4	"L"H.	1200	Own..	Cent.	Eise...	No..	King 1...	Gra..	1-15G.....	No..	Own
Townsend.....	800	2– 3	2.50	4500	78	20′ 0″	16	Hor....	10–20	F.A.K.	Own..	33.80	2	6½x7	Hor.	2	IH....	550	Own..	Cent.	K-W..	Yes.	Own 1½..	Pres..	1-14K.....	Yes.	Opt.
Townsend.....	1350	3– 4	2.50	6500	86	24′ 0″	17	Hor....	15–30	F.A.K.	Own..	39.20	2	7 x8	Hor.	2	IH....	500	Own..	Cent.	K-W..	Yes.	Own 2...	Pres..	1-18K.....	Yes.	Opt.
Townsend.....	2500	4– 8	2.50	11800	102	30′ 0″	18	Hor....	25–50	F.A.K.	Own..	57.80	2	8½x10	Hor.	2	IH....	475	Own..	Cent.	K-W..	Yes.	Own 2½..	Pres..	1-30K.....	Yes.	Opt.
Traylor.....	500	1	2.25	1750	76	20′ 0″	16	Hor....	6–12	F.A.K.	LeRoi.	15.63	4	3¼x4½	Ver..	4	"L"H.	1000	LeRoi.	Cent.	Split..	Yes.	King 1...	Gra..	1-10G.....	No	Orem
Twin City.....	....	3	2.90	4550	84	12′ 6″	10	Hor....	12–20	F.A.K.	Own..	28.90	4	4¼x6	Ver..	4	IH....	1000	Own..	Cent.	Bosch.	Yes.	Holley1¼	Gra..	2-1½G-23K..	No..	Don.
Twin City.....	....	5	2.90	8100	97	15′ 0″	13	Hor....	20–35	F.A.K.	Own..	48.40	4	5¼x6¾	Ver..	4	IH....	900	Own..	Cent.	Bosch.	Yes.	Holley 2..	Gra..	2-1½G-40K..	No..	Ben.
Twin City.....	....	8	2.00	23700	144	42′ 0″	16	Hor....	40–65	F.A.K.	Own	96.10	4	7¾x9	Ver..	1	IH....	535	Own..	Cent.	K-W..	Yes.	Holley2½	Gra..	2-10G-95K....	Yes.	None
Uncle Sam.....C-20	1235	2– 3	3.50	3000	72	12′ 0″	10	Hor....	12–20	F.A.K.	Weid..	25.60	4	4 x5½	Ver.	4	IH....	1200	Duplex	Suct.	Dixie..	Yes.	King 1¼..	Gra..	1-20G.....	No..	Ben.
Uncle Sam.....B-19	1985	3– 4	3.75	4650	85	13′ 0″	14	Hor....	20–30	F.A.K.	Beav..	36.10	4	4¾x6	Ver.	4	IH....	1000	Duplex	Cent.	Dixie..	Yes.	Ben. 1½..	Gra..	2-5G-22K....	No..	Ben.
Uncle Sam.....D-21	1895	3– 4	3.75	4600	85	13′ 0″	14	Hor....	20–30	F.A.K.	Beav..	36.10	4	4¾x6	Ver.	4	IH....	1000	Duplex	Cent.	Dixie .	Yes.	Ben. 1½..	Gra..	2-5G-22K....	No..	Ben.
Wallis.....OK	....	3	3.50	3630	84	20′ 0″	13	Uni....	15–27	F.A.K.	Own..	28.90	4	4¼x5¾	Ver.	4	IH....	900	Own..	Hyd.	Bosch.	Yes.	Ben. 1¼..	Gra..	2-20G-20K...	No..	Own
Waterloo Boy.....N	675	3	3.00	5869	89	14′ 0″	13	Hor....	12–25	F.A.K.	Own..	33.80	2	6½x7	Hor..	2	IH....	750	Own	Cent.	Split..	Yes.	Scheb 1½	Gra..	2-1G-20K....	Yes.	Own
Wetmore.....	1785	3	3.50	2900	72	15′ 0″	12½	Hor....	12–25	F.A.K.	Wauk.	25.60	4	4 x5¾	Ver.	2	"L"H.	1050	Wauk.	Cent.	Split..	Yes.	Scheb 1¼	Gra..	2-2½G-12K..	No..	None
Wisconsin.....	1750	3– 4	3.50	5600	90	11′ 0″	16	Hor....	16–30	F.A.K.	Climax	40.00	4	5 x6½	Ver.	2	"L"H.	800	Climax	Cent.	Eise...	Yes.	Strom 1½	Gra..	2-6G-20K....	No..	....
Wisconsin.....	2550	4– 5	3.50	7500	.....	12′ 0″	15	Hor....	22–40	F.A.K.	Climax	48.40	4	5½x7	Ver..	2	"L"H.	800	Climax	Cent.	Eise...	Yes.	Strom 1½	Gra..	2-6G-25K....	No	None
Yuba.....(Ball Tread)	2750	3	2.25	5750	.....	15′ 0″	10	Hor....	15–25	S.A....	Wis...	28.90	4	4¼x6	Ver..	4	"L"H.	900	Own..	Cent.	Bosch.	Yes.	Strom 1¼	Gra..	2-4G-21K....	No..	Pom
Yuba.....(Ball Tread)	4250	6	2.08	10130	.....	18′ 6″	11⅝	Uni....	25–40	S.A....	Wis...	52.90	4	5¾x7	Ver..	2	"T"H.	700	Own..	Cent.	Bosch.	Yes.	Strom 1½	Gra..	2-8G-38K....	....	Pom

For abbreviations see pages 338-339.

American Garden

MAKE AND MODEL	GENERAL										ENGINE												
																	Governor		Ignition	Fuel			
	Price	Operator's Position	Type of Steering	Size Plow Recommended	Number Plows Recommended	Plowing or Cultivating Speed (M.P.H.)	Weight (Lbs.)	Ground Clearance (Ins.)	Drawbar Type	Drawbar—Belt Rating	Make	H. P. Rating (N.A.C.C.)	Normal R.P.M. at Plowing Speed	Number Cylinders	Bore and Stroke	Engine Type	Valve Arrangement	Make	Type	Make	Make and Size Carbureter (Ins.)	Fuel
Aro.....	$385	Rid.....	Wheel...	12″	1	2–3	1000	10	Non-A..	3-L...	Own....	8.10	900	1	4½x5	Ver...	"L"H...	Own .	Cent..	Berling..	Scheb-1..	Gra
Beeman.....(Junior)	180	Wal....	H-Bars..	None...	0	.....	190	14	Uni.....	½–1	B&S....	2.50	.....	1	2½x2½	Ver...	"L"H...	None..	.....	Own....	B&S-½..	Gas
Beeman.....K	265	Wal....	H-Bars..	7″	1	¾–3	550	7¾	Uni.....	1½–4	Own....	4.90	800	1	3½x4½	Ver...	"L"H...	None..	.....	Heinze..	King-¾..	Gas
††Bolens.....	180	Wak...	H-Bars..	None...	1	.....	190	14	Hor.....	.....	B&S....	2.50	1200	1	2½x2½	Ver...	"L"H...	None..	.....	Own....	B&S-¾..	Gas
Centaur.....	345	R or W..	H-Bars..	9″–10″	1	1 –3	700	13	Uni.....	2½–5	New Way	8.10	900	1	4½x4½	Ver...	IH.....	N-W..	Cent..	Bosch...	Cart-1...	G-E
Do-It-All.....(Jack)	395	R or W..	.....	9″	1	.....	750	15	.....	2– 6	Own....	5.25	1500	1	3⅝x3⅞	Ver...	IH.....	Own..	Cent..	.....	.....	Gas
Do-It-All.....(Baby)	495	R or W..	.....	10″	1	.....	1200	9	.....	3 –6	Own....	8.10	700	1	4½x5	Ver...	"L"H...	None..	.....	Own....	Own-¾..	K
Do-It-All...(Twin Twelve)	495	R or W..	.....	10″–12″	1	.....	800	11	.....	4–15	Own....	9.11	1500	2	3⅜x3⅞	Ver...	IH.....	None..	.....	Own....	.....	G-E
Kinkade.....	190	Wal....	H-Bars..	5″	1	1½–2½	180	9	Uni.....	1½–3	Own....	3.80	1000	1	3 x3	Ver...	IH.....	None..	.....	Berling..	Scheb-½	Gas
M. B. M.....Red E	250	Wal....	H-Bars..	6″	1	1 –4	410	7	.....	1½–4½	Own....	5.50	1000	1	3¼x4	Ver...	IH.....	None..	.....	Bosch...	Holley-¼	Gas
Motor Macultivator.....	148	Wal....	H-Bars..	.....	.....	.....	210	6	.....	1½–	Own....	.....	1000	1	2¾x3½	Ver...	"L"H...	.....	.....	Berling..	Scheb-¼	Gas
N B.....2	375	R or W..	H-Bars..	9″	1	1½–3	750	10	Non-A..	–6	Own....	6.50	1500	2	2¾x4	Ver...	"L"H...	None..	.....	Simms..	King-¾..	Gas
Utilitor.....501	295	Wal....	H-Bars..	10″	1	2½	750	8	Uni.....	2¼–4	Own....	4.90	800	1	3½x4½	Ver...	"L"H...	Funk.	Cent..	Eise....	Holley-¾	Gas
Utilitor.....501-A	340	Rid.....	H-Bars..	10″	1	2½	1000	8	Uni.....	2¼x4	Own....	4.90	800	1	3½x4½	Ver...	"L"H...	Funk..	Cent..	Eise....	Holley-¾	Gas

ABBREVIATIONS:

GENERAL:
Rid—Riding
Wal—Walking
R. or W.—Riding or Walking
H. Bars—Handle Bars

Non-A—Non-Adjustable
Hor—Horizontal
Uni—Universal
B. & S.—Briggs and Stratton

Ver—Vertical
"L" H—"L" Head
I. H.—In Head
Cent—Centrifugal
N-W.—New-Way

Eise—Eisemann
Scheb—Schebler
King—Kingston
Cart—Carter

Specifications (Continued)

ENGINE						CLUTCH		BELT PULLEY				TRANSMISSION												MAKE AND MODEL
Oiling System		Cooling System																						
Type of System	Type of Pump	Make of Radiator	Circulation by	Capacity of System (Gals.)	Fluid	Make	Type	Diameter (Ins.)	Face (Ins.)	Normal R.P.M.	Clutch Type	Make	Type	Number of Forward Speeds	Final Drive	Diameter and Face Traction Members (Ins.)	Drive from Gearset to Traction Members	Drive Taken Through	Drive Wheel Axle Type	Does Differential Lock?	Type Drive Shaft Axle Bearings	Individual Brakes for Steering?	Individual Clutches for Steering?	Number of Non-Drive Wheels	Frame Type	
Hol.Crk...	Gear..	Perf...	Pump..	12	W..	T.Disc.	S.P....	16	8½	650	Sp.....	Own..	S.G..	3	Track.	66–	Chain..	.....	.....	.....	Plain..	Yes.	No.	....	Roll..	‡Monarch.....C-30-20
Hol.Crk...	Gear..	Mod..	Pump..	13	W..	T.Disc.	S.P....	.....	.....	.....	.....	Own..	S.G..	3	Track.	67–	Chain..	.....	.....	.....	Plain..	Yes.	No.	....	Roll..	‡Monarch.....E-4-40
Hol.Crk...	Gear..	Mod..	Pump..	13	W..	T.Disc.	S.P....	.....	.....	.....	.....	Own..	S.G..	3	Track.	89–	Chain..	.....	.....	.....	Plain..	Yes.	No.	....	Roll..	‡Monarch.....D-6-60
M.F.M.O.	Ecc...	Perf...	Pump..	23	W..	Own...	E.S....	22	8	450	E.S....	Own..	J.C..	2	Wheel.	64–20	I.G....	Rim..	Live..	No...	Plain..	No..	No..	2	Roll...	Nichols-Shepard.....
M.F.M.O.	Ecc...	Perf...	Pump..	40	W..	Own...	E.S....	24	9	375	E.S....	Own..	J.C...	1	Wheel.	69–28	S.G....	Rim..	Live..	No...	Plain..	No..	No..	2	Roll...	Nichols-Shepard.....
M.F.M.O.	Ecc...	Perf...	Pump..	40	W..	Own...	E.S....	30	12	300	E.S....	Own..	J.C..	1	Wheel.	73–32	S.G....	Rim..	Live..	No...	Plain..	No..	No..	2	Roll...	Nichols-Shepard.....
Cir.Spl...	Pist...	Own..	Pump..	10½	O...	Own...	E.S....	19	7	560	Spec...	Own..	S.G..	2	Wheel.	51–12	S.G....	Rim..	Rev...	No...	Roller.	No..	No..	2	Roll...	OilPull.....
Cir.Spl...	Pist...	Own..	Pump..	15	O...	Own...	E.S....	23	8½	530	Spec...	Own..	S.G..	2	Wheel.	56–16	S.G....	Rim..	Rev...	No...	Roller.	No..	No..	2	Roll...	OilPull.....
Cir.Spl...	Pist...	Own..	Pump..	17	O...	Own...	E.S....	26	9	450	Spec...	Own..	S.G..	2	Wheel.	64–20	S.G....	Rim..	Rev...	No...	Roller.	No..	No..	2	Roll...	OilPull.....
Cir.Spl...	Pist...	Own..	Pump..	70	O...	Own...	E.S....	36	11	375	Spec...	Own..	S.G..	1	Wheel.	80–30	S.G....	Rim..	Dead..	No...	Plain..	No..	No..	2	Roll...	OilPull.....
M.F.M.O.	Gear..	S-J...	Pump..	20	W..	Own...	M.D.D.	.....	.....	.....	M.D.D.	Own..	S.G..	3	Wheel.	60–18	S.G....	Spokes	Rev...	No...	Roller.	No.	No..	2	Roll...	Pioneer.....G
M.F.M.O.	Gear..	S-J...	Pump..	35	W..	Own...	M.D.D.	17½	15	625	M.D.D.	Own..	S.G..	3	Wheel.	96–24	S.G....	Spokes	Rev...	No...	Plain..	Yes.	No..	2	Roll...	Pioneer.....C
Cir.Spl...	Gear..	Mod..	Pump..	6	W..	Own...	.....	12	6	877	.....	Own..	S.G..	2	Wheel.	53–12	.....	.....	.....	No...	.....	.....	.....	2	Roll...	‡‡Russell.....(Junior)
Hol.Crk...	Gear..	Mod..	Pump..	8	W..	Own...	E.S....	12½	7	833	None...	Own..	S.G..	2	Wheel.	56–14	S.G....	Rim..	Dead..	No...	Roller.	No..	No..	2	Roll...	Russell.....(Little Boss)
Hol.Crk...	Gear..	Mod..	Pump..	9½	W..	Own...	E.S....	12½	8	835	None...	Own..	S.G..	2	Wheel.	60–16	S.G....	Rim..	Dead..	No...	Roller.	No..	No..	2	Roll...	Russell.....(Big Boss)
M.F.M.O.	Gear..	Mod..	Pump..	26	W..	Own...	E.S....	24	10	525	E.S....	Own..	S.G..	2	Wheel.	84–22	S.G....	Rim..	Dead..	No..	Plain.	No..	No..	2	Roll...	Russell.....(Giant)
Cir.Spl...	Ecc...	S-J...	Th-S...	7	W..	B&B...	S.P....	.....	.....	.....	None...	Own..	S.G..	2	Wheel.	48– 8	Worm..	Axle..	Live..	No...	B&R..	No..	No..	0	No. F.	‡Shaw-Enochs (Grader)
Hol.Crk...	Gear..	Todd..	Pump..	10	W..	Own...	C.B....	12	8	1000	C.B....	Own..	S.G..	1	Wheel.	60–12	S.G....	Axle..	Live..	No...	Plain..	No..	No..	2	No. F.	Stinson.....
M.F.M.O.	Pist...	Own..	.....	40	W..	Own...	F.D....	18	8½	575	F.D....	Own..	S.G..	2	Wheel.	54–10	Chain..	Spokes	Dead..	Yes..	Roller.	No..	No..	2	Roll...	Titan.....
Cir.Spl...	Gear..	Brem..	Pump..	12	W..	Hill....	M.D.D.	Opt.	.....	.....	Opt....	Own..	S.G..	3	Wheel.	42–12	S.&I.G.	Rim..	Live..	No...	Roller.	No..	No..	0	Roll...	‡Topp-Stewart.....
Cir.Spl...	Pist...	.....	Th-S...	.....	W..	Own...	C.B....	8	5	1200	None...	Own..	S.G..	2	Wheel.	41–13	S.G....	Spokes	Dead..	Yes..	Roller.	Yes.	No.	2	No. F.	Toro.....
M.F.M.O.	Pist...	Own..	Pump.	50	W..	Own...	Spec...	18	7	550	Spec...	Own..	S.G..	1	Wheel.	48–12	S.G....	Rim..	Live..	No...	Plain..	No..	No..	2	Roll...	Townsend.....
M.F.M.O.	Pist...	Own..	Pump.	75	W..	Own...	Spec...	20	8	500	Spec...	Own..	S.G..	1	Wheel.	56–18	S.G....	Rim..	Live..	No...	Plain..	No..	No..	2	Roll...	Townsend.....
M.F.M.O.	Pist...	Own..	Pump.	100	W..	Own...	Spec...	22	10	475	Spec...	Own..	S.G..	1	Wheel.	60–24	S.G....	Axle..	Live..	No...	Plain..	No..	No..	2	Roll...	Townsend.....
Hol.Crk...	Pist...	G&O..	Th-S...	4	W..	B&B...	S.P....	8	6	1000	None...	Own..	S.G..	1	Wheel.	38–10	I.G....	Rim..	Dead..	No...	Plain..	Yes.	No..	2	Roll...	Traylor.....
Hol.Crk...	Gear..	Mod..	Pump.	10½	W..	T.Disc.	S.P....	16	6½	650	None...	Own..	S.G..	2	Wheel.	50–12	S.G....	Axle..	Live..	No...	Roller.	No..	No..	2	No. F.	Twin City.....
Hol.Crk...	Gear..	Mod..	Pump.	18	W..	T.Disc.	S.P....	21	8½	466	None...	Own..	S.G..	2	Wheel.	60–20	S.G....	Axle..	Live..	No...	Roller.	No..	No..	2	No. F.	Twin City.....
M.F.M.O.	.....	Own..	Pump.	130	W..	Own...	C.B....	23	10½	535	C.B....	Own..	J.C..	1	Wheel.	84–24	S.G....	Rim..	Rev...	No...	Plain..	No..	No..	2	Roll...	Twin City.....
Hol.Crk...	Gear..	Perf...	Pump.	.....	W..	B&B...	S.P....	16	6	1000	None...	Own..	Chain	2	Wheel.	46–12	Chain..	Axle..	Live..	No...	Roller.	No..	No..	2	Roll...	Uncle Sam.....C-20
Hol.Crk...	Gear..	Perf...	Pump.	.....	W..	T.Disc.	S.P....	11	9¼	1000	J.C....	Nutt..	S.G..	2	Wheel.	50–12	S.G....	Axle..	Live..	No...	Roller.	No..	No..	2	Roll...	Uncle Sam.....B-19
Hol.Crk...	Gear..	Perf...	Pump.	.....	W..	T.Disc.	S.P....	11	9¼	1000	J.C....	Nutt..	S.G..	2	Wheel.	50–12	S.G....	Axle..	Live..	No...	Roller.	No..	No..	2	Press..	Uncle Sam.....D-21
Cir.Spl...	Pist...	Mod..	Pump..	5¼	W..	T.Disc.	S.P....	18½	7	475	T.Disc.	Own..	S.G..	2	Wheel.	48–12	S.G....	Axle..	Live..	No...	Roller.	No..	No..	2	Roll...	Wallis.....OK
M.F.M.O.	Pist...	Mod..	Pump.	13	W..	Own...	C.B....	14	8	750	C.B....	Own..	S.G..	2	Wheel.	52–12	I.G....	Rim..	Rev...	No...	Roller.	No..	No..	2	Press..	Waterloo Boy.....N
Hol.Crk...	Gear..	Ideal..	Pump.	7½	W..	Fuller..	M.D.D.	12	7	750	None...	Full..	S.G..	3	Wheel.	46–10	I.G....	Spokes	Dead..	No...	Roller.	No..	No..	2	Roll...	Wetmore..... :
Hol.Crk...	Ecc...	Perf...	Pump.	14	W..	T.Disc.	S.P....	16	8	575	S.P....	Foote.	S.G..	2	Wheel.	52–12	S.G....	Rim..	Rev...	No...	Plain..	No..	No..	2	Roll...	Wisconsin.....
Hol.Crk...	Ecc...	Perf...	Pump.	16	W..	T.Disc.	S.P....	16	9	375	S.P....	Foote.	S.G..	2	Wheel.	52–12	S.G....	Rim..	Rev...	No...	Plain..	No..	No..	2	Roll...	Wisconsin.....
Hol.Crk...	Gear..	Mod..	Pump.	5½	W..	Parag..	M.D.O.	12	6½	900	S.P....	Own..	S.G..	2	Track.	–12	S.G....	.....	.....	.....	Roller.	No..	Yes.	1	Roll...	Yuba.....(Ball Tread)
Hol.Crk...	Gear..	Mod..	Pump.	9	W..	Parag..	M.D.O.	14	8½	700	S.P....	Own..	S.G..	2	Track.	–17½	S.G....	.....	.....	.....	Roller.	No..	Yes.	1	Roll...	Yuba.....(Ball Tread)

For abbreviations see pages **338-339.**

Tractor Specifications

ENGINE								CLUTCH			BELT PULLEY			TRANSMISSION									MAKE AND MODEL
System		Oiling System		Cooling System																			
Number and Capacity of Fuel Tanks (gals.)	Make of Air Cleaner	Type of System	Type of Pump	Cooled By	Make of Radiator	Circulation By	Capacity of System	Make	Type	Control	Make of Clutch	R.P.M.	Diameter and Face (ins.)	Type	No. Forward Speeds	Drive from Engine or Gearset to Driving Wheels	Final Drive	No. Driving Wheels	Diameter and Face Driving Wheels (ins.)	Type Drive Wheel Axle Bearings	No. Non-Drive Wheels	Frame Type	
1-2½G..	Don...	Cir-Spl.	Gear...	Water.	Sh-John.	Ther-S..	2	Own....	E.B....	H-Lever...	None..	900	6 -4½	.....	1	Worm.	Axle..	2	30–4	Roller.	0	None...	Aro.....
1- ½G..	Don...	Cir-Spl.	Piston..	Air...	None....	Fan.....	....	Own....	Special	H-Lever...	None..	....	.....	.....	1	Chain.	Spokes	2	16–3	Plain..	0	None...	Beeman.....(Junior)
1-1½G..	Don...	Cir-Spl.	None...	Water.	Sh-John.	Ther-S..	....	Own....	Cone..	H.B.Grip..	None..	800	3½-4½	.....	1	Sp.G.	Rim..	2	25–3¼	Plain..	2	None..	Beeman.....K
1- ½G..	Don...	Cir-Spl.	Piston..	Air...	.....	Fan.....	....	Own....	.....	.....	.....	....	3 -2	200	1	Chain.	.....	2	10–3	.....	2	None..	††Bolens.....
1-2½G..	Own..	Splash..	None...	Air...	.....	Fan.....	....	New Way	MDD..	H-Lever...	None..	900	4 -6	S.G....	1	Chain.	Axle..	2	28–4	Roller.	..0	Rolled..	Centaur.....
1-5G....	None..	Cir-Spl.	.....	Air...	.....	.....	....	Own....	.....	H.B.Grip..	None..	1500	3 -3	J.C....	.....	.....	.....	2	.....	Roller.	0	.....	Do-It-All.....(Jack)
1-1K...	None..	Cir-Spl.	.....	Water.	.....	.....	....	Own....	Jaw...	H.B.Grip..	None..	1800	2 -2	J.C....	.....	.....	Axle..	2	26–2½	.....	0	.....	Do-It-All.....(Baby)
1-5G....	None..	Cir-Spl.	Gear...	Air...	.....	.....	....	Own....	Jaw...	H.B.Grip..	None..	1500	4 -4	S.G....	.....	.....	Axle..	2	32–4	Roller.	2	None...	Do-It-All...(Twin Twelve)
2-1G-½0	Own..	Cir-Spl.	Ecc....	Air...	.....	Fan.....	....	Own....	Jaw...	H.B.Grip..	None..	1000	3 -3	JC....	1	IG....	Spokes	1	22–5¼	Plain..	2	Pressed.	Kinkade.....
1-2G....	Own..	Spec...	None..	Air...	None...	.....	....	.....	.....	H-Lever..	None..	....	3 -3½	JC....	1	Worm.	Axle..	2	20–3	Plain..	2	None..	M. B. M.....Red E
1-3G....	None.	NCS...	Gear...	Air...	.....	.....	....	Own....	Cone...	H.B.Grip.	.....	.....	.....	.....	.....	SG....	Spokes	2	19½-3	Plain.	0	None..	Meter Macultivator.....
2-2G-½0	Ben..	Cir-Spl.	.....	Water.	G&O....	Ther-S..	3	Own....	.....	H-Lever...	None..	2800	5½-4¼	Plan..	1	IG....	Rim..	2	32–4	Plain..	2	None..	N B.....2
2-1G-½0	Own..	Cir-Spl.	Gear...	Water.	Fedders.	Ther-S..	1½	Own....	Cone..	H.B.Grip.	None..	1200	4⅝-3¾	.....	1	IG....	.....	2	24¾-4	Plain..	2	.....	Utilitor.....501
2-1G-½0	Own..	Cir-Spl.	Gear...	Water.	Fedders.	Ther-S..	1½	Own....	Cone..	H-Lever.	None..	1200	4⅝-3¾	.....	1	IG....	.....	2	24¾-4	Plain..	2	.....	Utilitor.....501-A

Gas—Gasoline
K—Kerosene
G-K—Gasoline or Kerosene
Don—Donaldson
Ben—Bennett

Cir. Spl.—Circulating Splash
Ecc—Eccentric
Sh.-John—Shotwell-Johnson
Ther-S.—Thermo-Siphon
NCS—Non-Circulating Splash

Spec—Special
E. B.—Expanding Band
M. D. D.—Multiple Dry Disk
H. Lever—Hand Lever
H. B. Grip—Handle Bar Grip

TRANSMISSION:
S. G.—Sliding Gear
J. C.—Jaw Clutch

Plan—Planetary
Sp. G.—Spur Gear
IG—Internal Gear

American Motor

MAKE AND MODEL	POWER PLANT						CARBURETER		LIGHTING SYSTEM			IGNITION SYSTEM		OILING SYSTEM		CLUTCH	
	Cylinder Arrangement	Cycle Type	Number of Cylinders, Bore and Stroke	Rated H.P. (N.A.C.C.)	Piston Displacement (Cu. Ins.)	Valve Arrangement	Make	Size (ins.)	Stock or Optional	Type	Make	Type	Make	Type	Type of Lubricant	Type	Controlled By
Ace	Vert.	4	4-2¾x3¼	10.5	77.2	O.E.,S.I.	Schebler	1	Stock	Elec.	Split.	Mag.	Simms	Splash	O.O.	Oil.D.	P.&H.L.
Cleveland..23ML & 23E	Vert.	2	1-2¾x2¾		16.33	3 Port	Own		Opt.	Elec.	Split.	Mag.	Bosch	Splash	OwG.	Fric.	Hand L.
Excelsior.....1923	Vee	4	2-2 1/16x3½	9.49	61.00	O.I.,S.E.	Schebler	1⅛	Stock	Elec.	Brlng.	Mag.	Brlng.	Splash	O.O.	DryD.	P.&G.H.B.
Evans.....1923	Vert.	2	1-2 x1¾			2 Port	Own		Stock	Elec.	Bosch	Mag.	Bosch	Splash	OwG.	None	
Harley-Davidson....JD	Vee	4	2-3 1/16x4	8.12	74.00	O.I.,S.E.	Schebler	1¼	Stock	Elec.	Own	Batt.	Own	Splash	O.O.	Dry.D.	P.&H.L.
Harley-Davidson....FD	Vee	4	2-3 1/16x4	8.12	74.00	O.I.,S.E.	Schebler	1¼	Opt.	Elec.	Own	Mag.	Bosch	Splash	O.O.	Dry.D.	P.&H.L.
Harley-Davidson.....J	Vee	4	2-3 1/16x3½	8.78	60.34	O.I.,S.E.	Schebler	1	Opt.	Elec.	Own	Batt.	Own	Splash	O.O.	Dry.D.	P.&H.L.
Harley-Davidson.....F	Vee	4	2-3 1/16x3½	8.78	60.34	O.I.,S.E.	Schebler	1	Opt.	Gas		Mag.	Bosch	Splash	O.O.	Dry.D.	P.&H.L.
Henderson.....1923	Vert.	4	4-2 1/16x3½	11.03	79.40	S by S.	Zenith	1	Stock	Elec.	Split.	Mag.	Simms	Force	O.O.	Oil.D.	P.&H.L.
Indian.....Scout	Vee	4	2-2¾x3 1/16	6.05	36.38	S by S.	Schebler	¾	Opt.	Elec.	Split.	Mag.	Split	Splash	O.O.	Oil.D.	Pedal
Indian.....Chief 61	Vee	4	2-3 1/16x3 1/16	7.90	60.88	S by S.	Schebler	1¼	Stock	Elec.	Split.	Mag.	Split	Splash	O.O.	Oil.D.	Pedal
Indian.....Chief 74	Vee	4	2-3 1/16x4 1/16	8.90	73.60	S by S.	Schebler	1¼	Stock	Elec.	Split.	Mag.	Split	Splash	O.O.	Oil.D.	Pedal
Indian.....Standard	Vee	4	2-3 1/16x3 1/16	7.90	60.80	S by S.	Schebler	1¼	Opt.	Elec.	Split.	Mag.	Split	Splash	O.O.	Dry.D.	F.P.&H.L.
Iver Johnson.....16-7	Vee	4	2-3 1/16x3¾	8.90	64.40	S by S.	Schebler	¾	None			Mag.	Bosch	Splash	O.O.	Fric.	Hand L.
Iver Johnson.....16-4	Vert.	4	1-3 1/16x3¾	4.25	33.60	S by S.	Schebler	¾	None			Mag.	Bosch	Splash	O.O.	Fric.	Hand L.
Iver Johnson.....V	Vert.	4	1-3 1/16x3¾	4.25	33.60	S by S.	Schebler	¾	None			Mag.	Bosch	Splash	O.O.	Cone	Hand L.
Neracar	Vert.	2	1-2 1/16x2¾	2.50	13.50	2 Port	Brown & B.		Stock	Elec.	Own	Mag.	Own	Splash	OwG.	Fric.	G.H.B.
Reading-Standard..23TE	Vee	4	2-3 1/16x4	9.11	71.57	S by S.	Schebler	1¼	Opt.	Elec.	Split.	Mag.	Bosch	Splash	O.O.	Dry.D.	P.&H.L.
Schickel.....T	Vert.	2	1-3 x2½	3.60	17.65	2 Port	Own		Opt.	Elec.	Own	Mag.	Split	Splash	OwG.	Oil.D.	Pedal

ABBREVIATIONS:

POWER PLANT:
Vert—Vertical
S. by S.—Side by Side
O. I. S. E.—Overhead Inlet Side Exhaust
O. E. S. I.—Overhead Exhaust Side Inlet

ELECTRICAL SYSTEM:
Opt—Optional
Elec—Electric
Mag—Magneto
Batt—Battery
Brlng—Berling
Split—Splitdorf

OILING SYSTEM:
O. O.—Oil Only
OwG—Mix Oil with Gasoline

CLUTCH:
Dry D—Dry Disk
Oil D—Oil Disk

Fric—Friction
P. & H. L.—Pedal & Hand Lever
G. H. B.—Grip on Handle Bars
P. & G. H. B.—Pedal and Grip on Handle Bars

German Motorcycle

MAKE AND MODEL	ENGINE									TRANSMISSION				RUNNING GEAR											
											CLUTCH						FORKS		BRAKES						
	Migrs. H.P. Rating	Number of Cylinders, Bore and Stroke (In.)	Cylinder Arrangement	Piston Displacement (Cu. Ins.)	Cycle Type	R.P.M.	Valve Arrangement	Oiling System	Make	Number of Speeds	Type	Controlled By	Drive	Tire Size (Ins.)	Wheelbase (Ins.)	Frame Type	Front—Type	Rear—Type	Hand—Type and Location	Foot—Type and Location	Starting System	Lighting System	Fuel Tank Capacity (Gals.)	Weight Complete (Lbs.)	Guaranteed Maximum Sp'd. (M.P.H.)
Adria.....A	2.2	1-2 1/16x3	Hor.	17.0	4	2400	L.	Spl.	Own	1	Non.		Belt	26x2	48½	StTu.	Spr.	Rig.	I-R.Rim.	I-R.Wh.		Acet.	1.1	112	34.1
Adria.....R	2.5	1-2 1/16x3 3/16	Vert.	18.0	4	2600	L.	Spl.	Own	1	Non.		Belt	26x2	49¾	StTu.	Spr.	Rig.	I-R.Rim.	I-R.Wh.		Acet.	1.5	123	37.2
Adria.....G	2.5	1-2 1/16x3 3/16	Vert.	18.0	4	2600	L.	For.	Own	2	Co.	H.	Belt	26x2¼	51¼	StTu.	Spr.	Rig.	E-R.Wh.	I-R.Wh.	K.	Elec.	1.7	172	40.3
Ardie.....3HP	3.0	1-2 1/16x2 1/16	Vert.	19.0	2	2200		MOF.	Own	2	Co.	F.	Belt	26x2¼	53¼	StTu.	Spr.	Rig.	I-R.Wh.	I-R.Wh.	K.	Opt.	2.2	190	40.3
Chair Type	6.5	2-2 1/16x2 1/16	H.O.	30.0	4	3000	L.	For.	B.M.W.	3	Co.	F.	Shaft	28x3	90½	PrSh.	Spr.	Spr.	I-R.Wh.	I-R.Wh.	K.	Elec.	5.5	550	46.6
Cito-Krieger.....KG	1.9	1-3 1/16x3 1/16	Vert.	30.2	4	2500	OH.	For.	Own	3	Co.	H.	Shaft	28x2½	57½	StTu.	Spr.	Rig.	E-R.Rim	I-R.Wh.	K.	Opt.	2.6	270	55.9
Cockerell	1.25	1-2 1/16x2 1/16	Hor.	7.5	2	2800		MOF.	Own	2	Non.		Belt	26x1¾	53½	StTu.	Spr.	Rig.	I-R.Rim.	I-R.Wh.		Acet.	1.0	93	31.0
D-Rad.....3HP	3.0	2-2 1/16x2 5/16	H.O.	23.0	4	2150	F.	For.	Own	3	Ds.	F.	Chain	26x2¼	52½	StTu.	Spr.	Rig.	I-R.Wh.	I-R.Wh.	K.	Opt.	2.1	195	46.6
Dr. Brandt & Co.	2.0	1-2 3/16x2 3/16	Vert.	12.0	4	3000	L.	Spl.	Own	2	Co.	H.	Belt	26x2¼		StTu.	Spr.	Rig.	I-R.Wh.	I-R.Wh.		Opt.	1.1		
Grade	2.0	1-2 1/16x2 1/16	Vert.	15.0	2	2000		MOF.	Own	1	Non.	H.	Belt	26x2		StTu.	Spr.	Rig.	I-R.Rim.	I-R.Wh.		Acet.	1.2	80	31.0
Gruhn	1.5	1-2 3/16x2 3/16	Vert.	12.0	4	2400	L.	Spl.	Own	1	Non.		Belt	26x2		StTu.	Spr.	Rig.	I-R.Wh.	I-R.Wh.		Acet.	0.6	110	31.0
Herko	1.9	1-2 1/16x2 3/16	Inc.	10.0	2	2700		MOF.	Own	1	Non.		Belt	28x1¾		StTu.	Spr.	Rig.	I-R.Rim.	I-R.Wh.		Acet.	0.9	100	31.0
Juhoe	1.5	1-2 3/16x2 3/16	Vert.	11.9	4	2500	L.	Spl.	Own	1	Non.		Belt	26x1¾		StTu.	Spr.	Rig.	I-R.Rim.	I-R.Wh.		Acet.	1.4		
Kirchheim & Co.	2.5	2-2 1/16x2 1/16	H.O.	15.5	2	2000		MOF.	Own	2	Co.	H.	Belt	26x2		StTu.	Spr.	Rig.	I-R Wh.	I-R.Wh.	K.	Acet.	1.2		
Koenig	1.62	1-2 1/16x2 3/16	Vert.	10.0	2	2200		MOF.	Own	2	Non.		Belt	26x2		StTu.	Spr.	Rig.	I-R.Rim.	I-R.Wh.	K.	Acet.	1.3	108	34.1
Krupp-Scooter	1.75	1-2 3/16x2 3/16	Vert.	12.0	4	2600	F.	Spl.	Own	1	Ds.	H.	Gear*	15x2¼	36¼	PrSh.	Spr.	Rig.	I-R.Rim.	I-F.Rim		Acet.	0.2	93	21.7
Mars	7.3	2-3 1/16x3 3/16	H.O.	58.0	4	3000	L.	For.	May.	2	Ex.	H.	Chain	26x2¾	59	PrSh.	Spr.	Riz.	I-Gear	I-R.Wh.	H.	Elec.	2.3	318	55.9
Megola-Chair	12.0	5-2 1/16x2 3/16	Rot.	37.5	4	3600	L.	For.	Own	1			Wheel*	28x3		PrSh.	Spr.	Sor.	E-R.Wh.	I-R Wh.		Opt.	2.8	308	53.0
Meybein	2.5	1-2 1/16x2 3/16	Vert.	8.4	2	2200		MOF.	D.K.W.	1	Co.	H.	Belt	28x2		StTu.	Spr.	Riz.	I-R.Rim.	I-R.Wh.		Acet.	1.1	109	37.2
M. F. Z.	2.5	1-2 1/16x3 1/16	Vert.	15.5	4	2200	OH.	For.	Own	2	Ds.	H.	Belt	26x2¼		StTu.	Spr.	Rig.	E-R.Rim	E-R.Rim	K.	Acet.	1.9	180	37.0

ABBREVIATIONS:

CYLINDER ARRANGEMENT:
Vert—Vertical
H. O.—Horizontally Opposed
Inc—Inclined
Hor—Horizontal
Rot—Rotary

ENGINE MAKE:
Black—Blackburne
Ba. & S.—Barr & Stroud
Vill—Villiers
Wh. & P.—White & Pope
Conna—Connaught
Anza—Anzani
Brad—Bradshaw
May—Maybach

VALVE ARRANGEMENT:
L—"L" Head
F—Valves in Head and Side
OH—Both valves overhead
OH†—Four valves per cylinder
O. E.—Overhead Exhaust, Side Inlet
O. I.—Overhead Inlet Side Exhaust
Sl—Sleeve

PISTON MATERIAL:
Al—Aluminum
C. I.—Cast Iron

OILING SYSTEM:
S. & P.—Splash & Pressure
Spl—Splash
M. O. F.—Mix Oil with Fuel
C. S.—Circulating Splash
For—Force
H. C.—Hollow Crankshaft

CLUTCH:
M. P.—Multiple Dry Plate
D. P.—Single Dry Plate
M. O.—Multiple Plates in Oil
Ds—Disc
Ex—Expanding

cycle Specifications

TRANSMISSION								FRAME, WHEELS, ETC.																					MAKE AND MODEL
GEARSET			GEAR RATIOS											BRAKES			CAPACITIES				WEIGHT (lbs.)		PRICE					
Type	No. of Forward Speeds	Reverse Speed Fitted?	Engine to Gearset	Low	Second	Third	Final Drive Type	Wheelbase (ins.)	Tire Size (ins.)	Frame Type	Front Fork Spring	Rear Wheel Sprung?	Starting System	Foot	Hand	Maximum High Speed (M.P.H.)	Gas Tank (Gals.)	Oil Tank (Qts.)	Height of Saddle above Ground (Ins.)	Road Clearance (Exclusive of Pedals, Ins.)	Empty	Ready for Road	Not Equipped	Equipped				
Prog	3	No	1.65	9.00	7.00	4.00	Chain	59	27x3½	Cradle	H.S.	No	Kick	Ext.	Ext.		3¾	3	29	5¾	365	395	$303	$335				Ace
Pos.C.	2	No					Chain	56½	26x3	Special	H.S.	No	Kick	Ext.		40	2¼				185	200	185	220				Cleveland..23ML & 23E
Selec	3	No	4.13	9.92	6.76	4.13	Chain	58½	27x3½	Diam.	H.S.	No	Kick	Ext.	Int*	65	3¼	4	27½	6	390	400		310				Excelsior.....1923
None	1	No					Belt	50	28x1½	Diam.		No	Pedals	Hub		30	1½		29½	6	70	80		135				Evans.....1923
Prog	3	No	2.39	9.22	6.15	4.10	Chain	60	28x3	Loop	H.S.	No	Kick	Ext.	Int†		3¼	4¾	29½		382	405		330				Harley-Davidson....JD
Prog	3	No	2.39	9.22	6.15	4.10	Chain	60	28x3	Loop	H.S.	No	Kick	Ext.	Int*†		3¼	4¾	29½		358	380	310					Harley-Davidson....FD
Prog	3	No	2.53	9 76	6.51	4.34	Chain	60	28x3	Loop	H.S.	No	Kick	Ext.	Int†	65	3¼	4¾	29½		376	400		305				Harley-Davidson.....J
Prog	3	No	2.53	9.76	6.51	4.34	Chain	60	28x3	Loop	H.S.	No	Kick	Ext.	Int†	65	3¼	4¾	29½		352	375		285				Harley-Davidson.....F
Selec	3	Yes	1.64	11.13	5.67	3.49	Chain	58½	27x3½	Loop	H.S.	No	Kick	Ext.	Int*	75	3¼	3	27	5½	411	420		398				Henderson.....1923
Prog	3	No	2.56	12.05	7.66	4.88	Chain	54	26x3	Loop	L.S.	No	Kick	Int.	Ext.		3	3	28	5	310	340	250	285				Indian.....Scout
Prog	3	No	2.55	13.24	8.42	5.36	Chain	60⅜	28x3	Loop	L.S.	No	Kick	Int.	Ext.		3½	3½	30	5	390	425		325				Indian.....Chief 61
Prog	3	No	2.55	13.24	8.42	5.36	Chain	60⅜	28x3	Loop	L.S.	No	Kick	Int.	Ext.		3½	3½	30	5	390	425		345				Indian.....Chief 74
Prog	3	No	2.37	10.10	6.50	4.08	Chain	59½	28x3	L.&C.S.	L.S.	Yes	Kick	Int.	Ext.		3¼	3	32	5½	385	410	275	310				Indian.....Standard
Hub	2	No		6.50	3.25		Chain	58	28x3	Diam.	L.S.	No	Kick	Hub			2	2	32	6	260							Iver Johnson.....16-7
Hub	2	No		6.25	3.25		Chain	58	28x3	Diam.	L.S.	No	Kick	Hub			2½	2	32	6	220							Iver Johnson.....16-4
None	1	No					Belt	58	28x2½	Diam.	L.S.	No	Pedals	Hub			2	1½	32	6	215							Iver Johnson.....V
Fric	5	No		11.50	8.62	5.75	Chain	55½	26x3	Special	H.S.	No	Kick	Int.		35	2¼		27	6	180			185				Neracar
Prog	3	No	2.25	9.20	6.00	3.91	Chain	58	28x3	Diam.	H.S.	No	Kick	Int.	Ext.	75	3	4	30	5½	366	392	290	315				Reading-Standard..23TE
D.D.	2	No	9.00	9.00	6.00		Chain	53	26x2½		H.S.	No	Kick	Ext.		45	1¼	½	28	5½	165		150	160				Schickel.....T

GEARSET:
Selec—Selective
Prog—Progressive
Hub—Two Speed Hub
Pos. C.—Positive Clutch

D. D.—Direct Drive
FRAME TYPE:
Diam—Diamond
L. & C. S.—Loop & Cradle Springs

FRONT FORK SPRING:
L. S.—Leaf Spring
H. S.—Helical Spring
BRAKES:
Ext—External

Int—Internal
Hub—Coaster Hub
†—Optional at extra cost
*—Operated by Foot

Specifications

ENGINE									TRANSMISSION				RUNNING GEAR													
MAKE AND MODEL	Mfrs. H. P. Rating	Number of Cylinders Bore and Stroke (In.)	Cylinder Arrangement	Piston Displacement (Cu. Ins.)	Cycle Type	R.P.M.	Valve Arrangement	Oiling System	Make	Number of Speeds	CLUTCH Type	CLUTCH Controlled by	CLUTCH Drive	Tire Size (Ins.)	Wheelbase (Ins.)	Frame Type	FORKS Front—Type	FORKS Rear—Type	BRAKES Hand—Type and Location	BRAKES Foot—Type and Location	Starting System	Lighting System	Fuel Tank Capacity (Gals.)	Weight Complete (Lbs.)	Guaranteed Maximum Sp'd. (M.P.H.)
N. S. U.....2	3.0	1-2½x3¼	Vert.	15.0	4	2800	OH	For.	Own.	2	Ds.	H.	Belt	26x2¼	53	StTu.	Spr.	Spr.	I-R.Rim.	E-R.Wh.	K.	Acet.	1.0	165	37.2
N. S. U.....3	4.5	1-2⅛x3¼	Vert.	21.5	4	2500	OH	For.	Own.	2	Co.	H.	Belt	26x2½	59	StTu.	Spr.	Spr.	I-R.Rim.	I-R.Wh.	K.	Acet.	1.6	250	43.5
N. S. U.....4	5.75	2-2½x3¼	Vee	30.0	4	2700	OH	For.	Own.	2	Co.	H.	Belt	26x2½	59	StTu.	Spr.	Spr.	I-R.Rim.	I-R.Wh.	K.	Elec.	1.7	260	49.7
N. S. U.....8	12.0	2-3½x3⅞	Vee	60.5	4	2500	OH	For.	Own.	3	Ds.	H.	Chain	28x3	63	StTu.	Spr.	Spr.	I-R.Wh.	E-R.Wh.	K.	Elec.	1.9	330	62.1
Orionette.....1¾	1.75	1-2 1/16x2 3/16	Vert.	8.1	2	2500		MOF	Own.	1	Non.		Belt	28x1¾		StTu.	Spr.	Rig.	I-R.Rim.	I-R.Wh.		Acet.	1.0	95	31.1
Orionette.....1¼	1.25	1-2 x2	Vert.	6.0	2	2500		MOF	Own.	1	Non.		Belt	28x1¾		StTu.	Spr.	Rig.	I-R.Rim.	I-R.Wh.		Acet.	1.0	85	24.8
Otto	1.0	1-2 x2	Vert.	6.0	4	2000	L	Spl.	Own.	1	Non.		Chain*	26x1½		StTu.	Rig.	Rig.	E-F.Wh.	I-F.Wh.		Acet.	0.5	92	21.7
Postler-Scooter	2.0	1-2 3/16x3	Vert.	15.5	4	2000	F	For.	Own.	2	Co.	H.	Belt	15x2¼	45¼	PrSh.	Spr.	Rig.	I-R.Rim.	E-R.Wh.	K	Opt.	0.4	138	31.0
Snob ▮.....D	1.5	1-2 1/16x2 1/16	Inc.	9.5	4	2000	OH	Spl.	Own.	1	Non.	H.	Belt	26x2		StTu.	Spr.	Rig.	E-R.Rim	I-R.Wh.		Acet.	1.0		
Tautz.....T24a	1.75	1-2 x2	Hor.	6.0	2	2400		MOF	Own.	1	Co.	H.	Belt	24x2	54½	StTu.	Spr.	Rig.	E-R.Wh.	I-R.Wh.	H.	Acet.	1.3	100	29.5
Tautz.....T24b	2.0	1-2 3/16x2 3/16	Hor.	8.2	2	2000		MOF	Own.	2	Co.	H.	Belt	24x2	54⅛	StTu.	Spr.	Rig.	E-R.Wh.	I-R.Wh.	H.	Acet.	1.3	112	32.0
Triumph-Knirps	3.0	1-2 3/4x2 7/8	Vert.	6.4	2	2800		MOF	Own.	2	Non.		Belt	26x2¼		StTu.	Spr.	Rig.	E-R.Rim	I-R.Wh.		Opt.	1.3	154	37.2
Victoria.....K.R.I.	6.0	2-2 11/16x2 11/16	H.O.	29.0	4	3000	OH	For.	Own.	2	Co.	H.	Belt	26x2½	55¼	StTu	Spr.	Rig.	I-R.Wh.	I-Gear.	K.	Acet.	2.8	270	40.3
Wanderer.....2½	4.5	1-2 3/4x3 3/8	Vert.	20.0	4	2800	L	For.	Own.	3	Ds.	H.	Belt	26x2½	54½	StTu.	Spr.	Rig.	E-R.Rim	I-R.Wh.	K.	Opt.	1.6	242	
Wanderer.....4½	8.5	2-2 3/4x3 1/8	Vee	37.8	4	2800	L	For.	Own.	3	Ds.	H.	Chain	26x2½	55⅛	StTu.	Spr.	Rig.	E-R.Rim	I-R.Wh.	K.	Opt.	2.2	286	
Zetge	2.5	1-2 1/16x2 3/8	Hor.	8.4	2	2200		MOF	D.K.W.	1	Co.	H.	Belt	26x2		StTu.	Spr.	Rig.	I-R.Rim.	E-R.Wh.	H.	Acet.	1.7	110	40.3
Zire	1.8	1-2 3/8x2 1/16	vert.	10.0	2	3800		MOF	Own.	2	Co.	H.	Belt	26x2		StTu.	Spr.	Rig.	I-R.Rim.	I-R.Rim.	K.	Acet.	1.6		37.2
Zschopau	1.5	1-2 x2 3/8	Hor	7.0	2	3000		MOF	D.K.W.	1	Non.		Belt	26x1¾	47¼	StTu.	Spr.	Rig.	I-R.Wh.	E-R.Wh		Elec.	0.3	106	24.8
Zschopau	2.5	1-2 1/16x2 3/8	Inc.	9.0	2	3000		MOF	D.K.W.	1	Co.	H.	Belt	26x1¾	48⅜	StTu.	Spr.	Rig.	I-R.Wh.	E-R.Wh.		Elec.	0.6	106	34.1
Zchopau Chair Type	2.5	1-2 1/16x2 3/8	Inc.	9.0	2	3000		MOF	D.K.W.	1	Non.		Belt	20x2	55⅛	Cast.	Spr.	Spr	I-R.Wh.	E-R.Wh.	H.	Elec.	1.0	118	31.0

Non—None
Co—Cone
H—Hand
F—Foot
B—Both Hand and Foot

GEARSET:
St. A.—Sturmey Archer
Bur—Burman
Alb—Albion

Non—None
Ch. L.—Chater Lea
Jar—Jardine
†—Also fitted with 4th speed
F—Friction
E—Expanding Pulley

DRIVE:
Ch. & B.—Chain & Bevel
*—Drives on Front Wheels

FRAME:
R—Rigid
S—Sprung
St. Tu.—Steel Tube
Pr. Sh.—Pressed Sheet

FORKS:
Spr—Springs
Rig—Rigid

BRAKES:
Exp—Expanding
Cont—Contracting
I. R. Rim—Internal Operating Rim on Rear Wheels
I. F. Wh.—Internal Operating Rim on Front Wheels
E. R. Wh.—External Rear Wheels
E. R. Rim—External Rear Rim

I. R.Wh.—Internal Rear Wheels
E. F. Wh.—External Front Wheels
I. Gear—Internal Gearset
K—Kick
P—Pedal

Acet—Acetylene
Elec—Electric

British Motorcycle Specifications

MAKE	ENGINE									TRANSMISSION							MISCELLANEOUS									
										Clutch		Gearset	Gear Ratios							Brakes						
	Mfrs. H.P. Rating	Number of Cylinders, Bore and Stroke (ins.)	Cylinder Arrangement	Cycle Type	Piston Displacement (cu. ins)	Make	Valve Arrangement	Piston Material	Oiling System	Type	Controlled By	Make	No. Speeds	Low	2nd	High	Drive	Wheelbase (ins.)	Tire Size (ins.)	Frame Type	Front	Rear	Starting System	Lighting System	Fuel Tank Capacity (pints)	Weight of Solo Machines (lbs.)	Guaranteed Max. Speeds (M.P.H.)	Price (Solo) £
A. J. S.	2¾	1-2.9x3.2	Ver.	4	21.2	Own.	L.	Al.	S&P.	MP.	H.	Own.	3	14	9.3	5.5	Chain.	53	26x2½	R.	Exp.	Exp.	K.	None.	14	209	....	£ 77
A. J. S.	2¾	1-2.9x3.2	Ver.	4	21.2	Own.	OH.	Al.	S&P.	MP.	H.	Own.	3	10.3	6.8	5.5	Chain.	53	26x2½	R.	Exp.	Exp.	P.	None.	18	204	65	87
A. J. S.	7	2-2.9x3.6	Vee.	4	48.7	Own.	L.	Al.	S&P.	MP.	H.	Own.	3	16	9	5	Chain.	57	28x2¾	R.	Exp.	Exp.	K.	Elec.	21	340	....	122
Alecto	2¾	1-3.0x3.0	Ver.	2	21.0	Own.	....	Al.	Spl.	DP.	H.	Bur.	2	9	5.5	....	Ch&B.	52	26x2½	R.	Rim.	V Rim	K.	None.	12	170	50	60
Allen	2¾	1-2.75x3.0	Ver.	2	17.7	Own.	....	CI.	Spl.	MP.	H.	StA.	3	16	8.2	5.5	Ch&B.	52	26x2½	R.	Band.	Band.	K.	Elec.	11	185	40	63
Allen	2¾	1-2.75x3.54	Ver.	4	21.1	J.A.P.	L.	CI.	Spl.	DP.	H.	StA.	2	9.7	5.5	....	Chain.	52	26x2¾	R.	Band.	Band.	K.	None.	11	200	55	65
Ariel	2½	1-2.36x3.46	Ver.	4	15.2	Black.	L.	Al.	Spl.	DP.	H.	Bur.	2	14.1	6.5	....	Chain.	52	26x2¼	R.	V Rim	V Rim	K.	None.	12	185	....	57
Ariel	3½	1-3.4x3.34	Ver.	4	30.5	Own.	L.	CI.	Spl.	MP.	B.	Own.	3	16.6	8.9	5.4	Chain.	57	26x2½	R.	V Rim	V Rim	K.	None.	12	286	....	87
Ariel	4½	1-3.62x3.93	Ver.	4	40.5	Own.	L.	CI.	Spl.	MP.	B.	Own.	3	16.5	8.7	5.3	Chain.	61	28x3	R.	Exp.	Exp.	K.	None.	21	322	....	95
Ariel	6	2-2.87x3.74	Vee.	4	48.6	....	L.	CI.	Spl.	MP.	B.	Own.	3	15.2	8.2	5	Chain.	61	28x3	R.	Exp.	Exp.	K.	None.	16	338	....	100
Ariel	8	2-3.22x3.7	Vee.	4	60.6	M.A.G.	OI.	CI.	Spl.	MP.	B.	Own.	3	14.3	7.7	4.6	Chain.	61	28x3	R.	Exp.	Exp.	K.	None.	21	344	....	105
Armis	2¾	1-2.75x3.0	Ver.	4	17.7	J.A.P.	L.	CI.	Spl.	DP.	H.	Bur.	2	9.5	5	....	Ch&B.	52	26x2½	R.	Rim.	V Rim	K.	None.	12	170	....	.....
Armis	5	2-2.75x3.46	Vee.	4	41.4	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	16	9	5.5	Ch&B.	56	26x2½	R.	Rim.	V Rim	K.	None.	12	220	....	.....
Beardmore	2¾	1-2.75x3.54	Ver.	4	21.1	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	16.5	8.3	5.5	Chain.	50	26x2¼	R.	Band.	V Rim	K.	None.	12	.....	....	58
Beardmore	2¾	1-2.75x3.56	Ver.	4	21.2	Ba&S.	Sl.	CI.	Spl.	MP.	H.	StA.	3	17.1	8.9	5.9	Chain.	50	26x2¾	R.	Band.	V Rim	K.	None.	12	.....	....	73
Beardmore	3½	1-3.18x3.77	Ver.	4	30.2	Own.	L.	CI.	S&P.	MP.	H.	Own.	3	13	8	5	Chain.	54	28x2¾	R.	Band.	Band.	K.	None.	16	.....	....	70
Beardmore	4¼	1-3.5x3.77	Ver.	4	36.5	Own.	L.	CI.	S&P.	MP.	H.	Own.	3	14.6	9	5.5	Chain.	54	28x2¾	S.	Band.	Band.	K.	None.	16	.....	....	80
Bradbury	2¾	1-2.91x3.14	Ver.	4	21.3	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	12	7.8	6	Chain.	54	26x2¾	R.	Exp.	Exp.	K.	None.	10	194	....	60
Bradbury	4	1-3.5x3.5	Ver.	4	33.7	Own.	L.	CI.	Spl.	MP.	H.	Own.	3	16	9	5.4	Chain.	56	26x2½	R.	Exp.	Exp.	K.	None.	12	280	....	75
Bradbury	6	2-2.93x3.38	Vee.	4	45.6	Own.	L.	CI.	Spl.	MP.	B.	Own.	3	15	8.4	5	Chain.	58	28x3	R.	Exp.	Exp.	K.	None.	20	332	....	93
Brough	3½	2-2.75x2.53	HO.	4	30.2	Own.	OH.	Al.	Spl.	MP.	H.	StA.	3	8.5	5.2	4.2	Chain.	56	26x3	R.	Exp.	V Rim	K.	None.	16	210	75	80
Brough	5	2-2.75x3.54	HO.	4	42.2	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	12	7.5	4.5	Chain.	58	26x3	R.	Exp.	V Rim	K.	None.	18	255	60	100
Brough Superior	8	2-3.36x3.34	Vee.	4	60.1	J.A.P.	L.	Al.	Spl.	MP.	H.	StA.	3	8.2	5.2	3.2	Chain.	58	28x3	R.	V Rim	V Rim	K.	None.	...	.....	.....	130
B. S. A.	2¾	1-2.83x3.36	Ver.	4	21.2	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	15	9	5.6	Chain.	50	26x2	R.	V Rim	V Rim	K.	None.	12	.....	.....	58
B. S. A.	3½	1-3.14x3.85	Ver.	4	30.1	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	14	9	5.3	Chain.	50	26x2¾	R.	V Rim	V Rim	K.	None.	14	.....	.....	70
B. S. A.	4¼	1-3.34x3.74	Ver.	4	33.8	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	13	8	5	Chain.	54	26x2½	R.	V Rim	V Rim	K.	None.	14	.....	.....	75
B. S. A.	6	2-2.99x3.34	Vee.	4	46.9	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	13	8	5	Chain.	56	26x3	R.	V Rim	V Rim	K.	None.	14	.....	.....	90
B. S. A.	8	2-3.14x3.85	Vee.	4	60.1	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	13	8	5	Chain.	58	28x3	R.	V Rim	Exp.	K.	None.	17	.....	.....	107
Calthorpe	2½	1-2.63x2.71	Ver.	2	14.9	Own.	....	CI.	Spl.	DP.	H.	Bur.	2	9†	5.5	....	Ch&B.	44	24x2¼	R.	Rim.	V Rim	K.	None.	12	140	45	40
Calthorpe	3	1-2.95x3.11	Ver.	2	21.2	Own.	....	CI.	Spl.	DP.	H.	Bur.	3	14	9	5.7	Ch&B.	52	26x2½	R.	Rim.	V Rim	K.	Elec.	14	190	45	62
Campion	2½	1-2.63x2.75	Ver.	2	15.0	Vill.	....	CI.	Spl.	DP.	H.	StA.	2	10	5.5	....	Ch&B.	53	26x2½	R.	Rim.	V Rim	K.	None.	12	165	....	50
Campion	2¾	1-2.79x3.46	Ver.	4	21.3	Black.	L.	Al.	Spl.	DP.	H.	StA.	2	10	5.7	....	Ch&B.	53	26x2¼	R.	Exp.	V Rim	K.	None.	12	175	....	58
Campion	2¾	1-2.75x3.0	Ver.	4	17.7	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	14.6	9	5.5	Chain.	54	26x2¼	R.	Exp.	Exp.	K.	None.	12	185	....	62
Campion	4¼	1-3.36x3.74	Ver.	4	33.5	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	13.3	8.1	5	Chain.	60	26x2½	R.	Exp.	Exp.	K.	None.	18	260	....	85
Campion	8	2-3.36x3.46	Vee.	4	59.8	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	12.6	7.7	4.7	Chain.	66	28x3	R.	Exp.	Exp.	K.	None.	20	355	....	.....
Cedos	2½	1-2.63x2.75	Ver.	2	15.0	Own.	....	CI.	Spl.	DP.	H.	StA.	2	10	5.5	....	Ch&B.	50	26x2¼	R.	.....	V Rim	K.	None.	14	147	45	48
Cedos	2½	1-2.63x2.75	Ver.	2	15.0	Own.	....	CI.	Spl.	MP.	H.	StA.	3	15	7.7	5.2	Chain.	50	26x2¼	R.	Exp.	Exp.	K.	None.	14	150	48	57
Connaught	2¾	1-2.87x2.75	Ver.	2	17.8	Own.	....	CI.	Spl.	DP.	H.	StA.	2	9.6	5.2	....	Ch&B.	52	26x2¼	R.	V Rim	V Rim	K.	None.	12	165	....	50
Connaught	3½	1-2.99x3.03	Ver.	2	21.3	Own.	....	CI.	Spl.	MP.	H.	Bur.	3	16	9	5	Chain.	54	26x2½	R.	.....	Band.	K.	None.	16	195	....	60
Cotton	2¼	1-2.36x3.46	Ver.	4	15.1	Black.	L.	Al.	Spl.	DP.	H.	Bur.	2	10	5.2	....	Ch&B.	54	26x2¼	R.	Rim.	V Rim	K.	None.	14	165	50	57
Cotton	2½	1-2.63x2.75	Ver.	2	15.0	Vill.	....	CI.	Spl.	DP.	H.	Bur.	2	10	5.2	....	Ch&B.	53	26x2¼	R.	Rim.	V Rim	K.	None.	14	160	45	49
Cotton	2¾	1-2.79x3.46	Ver.	4	21.3	Black.	L.	Al.	Spl.	DP.	H.	Bur.	2	8.8	5	....	Ch&B.	54	26x2¼	R.	Rim.	V Rim	K.	None.	14	175	56	60
Cotton	2¾	1-2.79x3.46	Ver.	4	21.3	Black.	OH.	Al.	Spl.	MP.	H.	Bur.	3	10.3	7.3	5	Chain.	54	26x2¼	R.	Exp.	Exp.	K.	None.	14	189	70	72
Clyno	2½	1-2.75x2.75	Ver.	2	16.3	Own.	....	Al.	Spl.	MO.	F.	Own.	2	10	5.7	~..	Ch&B.	52	26x2¼	R.	Rim.	V Rim	P.	None.	12	130	....	40
Clyno	8	2-2.99x4.01	Vee.	4	56.4	Own.	L.	CI.	Spl.	MO.	F.	Own.	3	16.3	7.6	4.8	Chain.	58½	28x3	S.	Rim.	Exp.	K.	Elec.	18	360	....	.....
Diamond	1½	1-3.34x2.44	Ver.	2	8.9	Vill.	....	CI.	Spl.	DP.	H.	Bur.	2	.....	.....	.....	Ch&B.	50	26x2¼	R.	Rim.	V Rim	P.	None.	10	120	....	35
Diamond	2½	1-2.63x2.75	Ver.	2	15.0	Vill.	....	CI.	Spl.	DP.	H.	StA.	2	.....	.....	.....	Chain.	52	26x2¼	R.	Rim.	V Rim	K.	None.	10	160	....	52
Dot	2¾	1-2.75x3.54	Ver.	4	21.3	J.A.P.	L.	Al.	Spl.	MP.	H.	StA.	3	13	8.5	5	Chain.	53	26x2¾	R.	Exp.	Exp.	K.	None.	12	180	60	78
Dot	2¾	1-2.79x3.46	Ver.	4	21.3	Black.	OH.	CI.	Spl.	MP.	H.	Alb.	3	10	7.5	5	Chain.	53	26x2¾	R.	Exp.	Exp.	K.	None.	12	175	65	80
Dot	8	2-3.34x3.34	Vee.	4	60.2	J.A.P.	L.	Al.	Spl.	MP.	H.	StA.	3	8.5	5	3.5	Chain.	59	28x3	R.	Exp.	Exp.	K.	None.	16	.....	80	140
Douglas	2¾	2-2.39x2.36	HO.	4	21.3	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	14	9	5.8	Chain.	...	26x2¼	R.	Cont.	Cont.	K.	Acet.	12	198	50	80
Douglas	3½	2-2.67x2.67	HO.	4	30.2	Own.	OH.	CI.	Spl.	DP.	H.	Own.	3	13	8.7	5.5	Chain.	...	26x2½	R.	Cont.	Exp.	K.	Acet.	16	.....	.....	95
Douglas	4	2-2.93x2.67	HO.	4	36.3	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	11	8	5	Chain.	...	26x2¾	R.	Cont.	Exp.	K.	Acet.	16	.....	.....	90
Douglas	6	2-3.26x2.67	HO.	4	48.4	Own.	OH.	CI.	Spl.	DP.	H.	Own.	3	12	8.7	5.3	Chain.	...	28x3	R.	Cont.	Exp.	K.	Acet.	16	.....	.....	105
Dunelt	5	1-3.34x3.46	Ver.	2	30.5	Own.	....	CI.	Spl.	MP.	H.	StA.	3	12	7.5	4.5	Chain.	...	28x3	R.	Rim.	Rim.	K.	Acet.	18	260	50	75
Duzmo	3½	1-3.5x3.11	Ver.	4	30.3	Own.	OH.	Al.	Spl.	MP.	H.	StA.	3	7	5.5	4.2	Chain.	...	26x2½	R.	Exp.	Exp.	K.	None.	16	225	75	.....
Eagle	1½	1-2.16x2.44	Ver.	2	8.9	Vill.	....	CI.	Spl.	Non.	....	Non.	1	8	.....	.....	Belt.	...	26x2	R.	Rim.	V Rim	P.	None.	12	.....	....	30
Eagle	2¾	1-2.75x2.51	Ver.	4	15.2	J.A.P.	L.	CI.	Spl.	DP.	H.	StA.	2	11	6	.....	Chain.	...	26x2¼	R.	Exp.	V Rim	K.	None.	16	165	....	60
Eagle	3	1-2.75x3.54	Ver.	4	21.3	J.A.P.	L.	CI.	Spl.	DP.	H.	StA.	2	11	6	.....	Chain.	...	26x2¼	R.	Rim.	V Rim	K.	None.	12	190	....	67
Eagle	4¼	1-3.34x3.74	Ver.	4	33.5	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	14	8.5	5.2	Chain.	...	26x2¼	R.	V Rim	V Rim	K.	None.	20	250	....	95
Eagle	6	2-2.75x3.46	Vee.	4	41.4	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	14	8.5	5.2	Chain.	...	26x2¼	R.	V Rim	V Rim	K.	None.	20	290	....	.....
Eagle	8	3.34x3.34	Vee.	4	59.4	J.A.P.	L.	Al.	Spl.	MP.	H.	StA.	3	12	7.5	4.5	Chain.	...	26x3	R.	Exp.	V Rim	K.	None.	20	320	....	125
Economic	2	2-2.06x1.51	HO.	2	10.0	Own.	....	CI.	MOF.	....	F.	....	F.	19	6	.....	Belt.	51	26x2¼	R.	Rim.	V Rim	P.	Elec.	12	115	25	29
Enfield	2¼	1-2.51x2.75	Ver.	2	13.9	Own.	....	CI.	MOF.	Ex.	H.	Own.	2	9.3	5.4	.....	Chain.	49	24x2¼	R.	Rim.	V Rim	K.	None.	15	155	....	50
Enfield	8	2-3.36x3.34	Vee.	4	59.4	Own.	L.	CI.	Spl.	Ex.	H.	Own.	2	8.3	4.7	.....	Chain.	55	28x2¾	R.	V Rim	V Rim	K.	None.	16	270	....	120
Excelsior	1½	1-2.16x2.44	Ver.	2	8.9	Vill.	....	CI.	Spl.	DP.	H.	Alb.	2	13	6.5	.....	Ch&B.	48	24x2	R.	Rim.	V Rim	K.	None.	9	112	35	32
Excelsior	2½	1-2.63x2.75	Ver.	2	15.0	Vill.	....	CI.	Spl.	DP.	H.	StA.	2	11.5	6.2	.....	Ch&B.	49	24x2¼	R.	Rim.	V Rim	K.	None.	9	158	45	50
Excelsior	2¾	1-2.75x2.99	Ver.	4	21.3	J.A.P.	L.	CI.	Spl.	MP.	H.	Bur.	3	10.7	7.7	5.2	Chain.	54	26x2¼	R.	Exp.	Exp.	K.	None.	16	213	50	67
Francis Barnett	2½	1-2.75x2.99	Ver.	4	17.7	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	10.5	7.5	5.2	Chain	53	26x2¼	R.	Exp.	V Rim	K.	None.	12	180	....	64
Francis Barnett	2¾	1-2.75x3.54	Ver.	4	21.3	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	10.5	7.5	5.2	Chain	53	26x2¾	R.	Exp.	V Rim	K.	None.	14	210	....	72
Grigg	2	1-2.32x2.48	Ver.	4	12.2	Shaw.	OH.	Al.	Spl.	Non.	.....	ChL.	2	11	6.2	.....	Ch&B.	50	24x2¼	R.	Rim.	V Rim	P.	None.	10	100	38	38
Grigg	2¼	1-2.51x2.44	Ver.	2	12.8	Own.	....	CI.	Spl.	DP.	H.	StA.	2	11	6.2	.....	Ch&B.	52	26x2¼	R.	Rim.	V Rim	K.	None.	10	168	40	42
Grigg	2½	1-2.63x2.75	Ver.	2	15.0	Vill.	....	CI.	Spl.	DP.	H.	StA.	2	11	6.2	.....	Ch&B.	52	26x2¼	R.	Rim.	V Rim	K.	Elec.	10	156	50	49
Grigg	3½	1-3.11x2.75	Ver.	2	20.9	Vill.	....	CI.	Spl.	DP.	H.	StA.	2	11	6.2	.....	Ch&B.	54	26x2¼	R.	Rim.	V Rim	K.	Elec.	12	195	55	55
G. S. D.	3½	1-2.99x2.99	Ver.	2	21.3	Wh&P.	....	Al.	CS.	DP.	B.	Own.	4	20	13	9†	Worm.	...	26x3	R.	Exp.	Exp.	K.	Elec.	16	.....	55	85
G. S. D.	8	2-3.34x3.34	Vee.	4	60.2	J.A.P.	L.	Al.	Spl.	DP.	B.	Own.	4	20	13	9†	Worm.	...	28x3	R.	Exp.	Exp.	K.	Elec.	18	.....	60	.....
Hack	1¼	1-2.0x2.0	Ver.	2	6.2	Own.	....	CI.	MOF.	MP.	H.	Non.	1	8	.....	.....	Chain.	46	20x1¾	R.	Rim.	Rim.	P.	None.	5	75	20	39
Hawker	2¼	1-2.75x2.99	Ver.	2	17.7	Own.	....	CI.	Spl.	Non.	.....	Own.	2	9	5	.....	Ch&B.	...	26x2¼	R.	Rim.	Rim.	P.	None.	12	160	40	48
Hawker	2¾	1-2.79x3.46	Ver.	4	21.3	Black.	OH.	CI.	Spl.	MP.	H.	Bur.	3	9	6	4.7	Chain.	...	26x2¼	R.	Exp.	Exp.	P.	Elec.	14	195	70	85
Hawker	4¼	1-3.34x3.81	Ver.	4	33.5	Black.	L.	CI.	Spl.	MP.	H.	Bur.	3	15	10	5	Chain.	...	26x2½	R.	Exp.	Exp.	K.	Elec.	14	210	60	80
Hazlewood	2¾	1-2.75x3.54	Ver.	4	21.3	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	12	9	5.7	Chain.	...	26x2¼	R.	Exp.	Exp.	K.	None.	12	.....	....	75
Hazlewood	6	2-2.75x3.46	Vee.	4	41.4	J.A.P.	L.	CI.	Spl.	MP.	F.	Own.	3	10	7	4	Ch&B.	...	26x2¼	R.	V Rim	V Rim	K.	None.	16	300	....	.....
Hazlewood	8	2-3.36x3.34	Vee.	4	60.2	J.A.P.	L.	CI.	Spl.	MP.	B.	Own.	3	10	7	4	Chain.	...	28x2½	R.	V Rim	Exp.	K.	None.	16	330	....	.....
Hudson	2¾	1-2.75x3.54	Ver.	4	33.5	Own.	L.	Al.	Spl.	DP.	H.	Own.	3	15	8.6	5.7	Chain.	...	26x2¼	R.	Exp.	Exp.	K.	None.	12	.....	....	65
Hudson	3½	1-3.12x3.93	Ver.	4	30.4	Own.	L.	Al.	Spl.	DP.	H.	Own.	3	11.5	6.2	4.5	Chain.	...	26x2¼	R.	Exp.	Exp.	K.	None.	12	.....	....	75
Humber	2¾	1-2.95x3.11	Ver.	4	33.4	Own.	L.	Al.	Spl.	MP.	H.	Own.	3	15.4	9.1	5.5	Chain.	...	26x2¼	R.	Exp.	V Rim	K.	None.	12	200	....	65
Humber	4½	2-2.95x2.67	HO.	4	36.6	Own.	L.	CI.	CS.	MP.	H.	Own.	3	14.8	8.8	5.3	Chain.	55	26x2½	R.	V Rim	V Rim	K.	None.	18	275	....	99
Imperial	2¾	1-2.75x2.99	Ver.	4	17.8	Own.	L.	CI.	Spl.	MP.	H.	Own.	3	16	8.5	5.7	Chain.	...	26x2¼	R.	Exp.	Exp.	K.	Acet.	12	190	....	65
Imperial	3	1-2.75x3.54	Ver.	4	33.4	Own.	L.	CI.	Spl.	MP.	H.	Own.	3	15.2	7.9	5.2	Chain.	...	26x2¼	R.	Exp.	Exp.	K.	Acet.	14	208	....	72
Imperial	8	2-3.34x3.34	Vee.	4	58.8	Own.	L.	CI.	Spl.	MP.	H.	Own.	3	13	7.5	4.7	Chain	...	28x3	R.	Exp.	Exp.	K.	Acet.	16	210	....	.....
James	2¼	1-2.59x2.75	Ver.	2	14.5	Own.	....	CI.	Spl.	MP.	H.	Own.	2	10.5	5.7	.....	Chain.	52	26x2¼	R.	Exp.	V Rim	K.	None.	12	170	....	50
James	2¾	1-2.87x3.28	Ver.	4	21.2	Own.	L.	CI.	Spl.	MP.	H.	Own.	3	15.9	9	5.6	Chain.	54	26x2½	R.	Exp.	Exp.	K.	None.	12	260	....	65
James	3½	2-2.51x3.03	Vee.	4	30.5	Own.	L.	CI.	Spl.	MP.	H.	Own.	3	10.7	7.2	5.2	Chain.	56	26x2½	R.	Exp.	Exp.	K.	None.	12	290	....	75
James	7	2-2.87x3.52	Vee.	4	45.6	Own.	L.	CI.	Spl.	MP.	H&F.	Own.	3	17.6	9.2	5.2	Chain.	56	28x3	R.	Exp.	Exp.	K.	None.	16	310	....	95
J. E. S.	1½	1-2.36x2.36	Ver.	2	10.2	Own.	....	CI.	Spl.	Non.	.....	Own.	3	13	8	6	Chain.	52	24x2	R.	Rim.	V Rim	P.	None.	8	90	....	47
J. E. S.	2½	1-2.67x2.67	Ver.	2	14.8	Own.	....	CI.	Spl.	DP.	H.	Own.	4	15	12	8†	Chain.	54	26x2¼	R.	Rim.	Exp.	K.	None.	12	160	....	60

For abbreviations see page 443.

British Motorcycle Specifications (Continued)

MAKE	ENGINE									TRANSMISSION							MISCELLANEOUS										
										Clutch		Gearset	Gear Ratios							Brakes							
	Mfrs.H.P.Rating	Number of Cylinders, Bore and Stroke (ins.)	Cylinder Arrangement	Cycle Type	Piston Displacement (cu. ins.)	Make	Valve Arrangement	Piston Material	Oiling System	Type	Controlled By	Make	No. Speeds	Low	2nd	High	Drive	Wheelbase (ins.)	Tire Size (ins.)	Frame Type	Front	Rear	Starting System	Lighting System	Fuel Tank Capacity (pints)	Weight of Solo Machines (lbs.)	Guaranteed Max. Speeds (M.P.H.)	Price (Solo) £
King Dick	3½	1-3.34x3.46	Ver.	4	30.4	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	14.8	7.6	5.1	Ch&B.	54	26x2¼	R.	Exp.	V Rim	K.	None.	18	....	....	67
King Dick	4¼	1-3.34x4.33	Ver.	4	39.0	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	16.2	8.7	5.2	Chain	54	28x3	R.	Exp.	Exp.	K.	None.	18	....	....	85
King Dick	6	2-2.87x3.74	Vee.	4	48.5	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	15.5	8.3	5	Chain	56	28x3	R.	Exp.	Exp.	K.	None.	18	....	....	95
Lea Francis	3½	2-2.51x3.03	Vee.	4	30.3	M.A.G.	OI.	CI.	Spl.	MP.	B.	Own.	3	12	7.5	5	Chain	55	26x2½	R.	V Rim	V Rim	K.	None.	14	242	....	90
Lea Francis	5	2-2.51x3.62	Vee.	4	36.1	M.A.G.	OI.	CI.	Spl.	MP.	H.	Bur.	3	15.4	8.9	5.5	Chain	59	26x3	R.	V Rim	V Rim	K.	None.	14	275	....	96
Levis	2	1-2.44x2.75	Ver.	2	12.9	Own.		CI.	HC.	DP.	H.	StA.	2	9.7	5.5	....	Ch&B.	51	24x2¼	R.	Rim.	V Rim	K.	None.	12	135	....	48
Levis	2½	1-2.63x2.75	Ver.	2	14.8	Own.		CI.	HC.	MP.	H.	StA.	3	15	7.8	5.2	Chain	51	24x2¼	R.	.....	Exp.	K.	None.	12	150	....	65
McKenzie	1¾	1-2.36x2.36	Ver.	2	10.2	Own.		CI.	MOF.	Non.		Non.	1	.....	.....	.....	Belt.	48	24x2	R.	Rim.	Exp.	D.	None.	10	110	....	27
Martinsyde	2¾	1-2.75x3.54	Ver.	4	21.1	Own.	OE.	CI.	Spl.	MP.	H.	StA.	3	15.2	8	5.2	Chain	....	26x2½	R.	Exp.	V Rim	K.	None.	14	250	60	65
Martinsyde	6	2-2.75x3.46	Vee.	4	41.3	Own.	OE.	CI.	Spl.	MP.	H.	AJS.	3	15	11	5	Chain	....	26x3	R.	V Rim	V Rim	K.	None.	18	280	45	107
Matchless	3	1-2.79x3.46	Ver.	4	21.3	Black.	L.	CI.	Spl.	MP.	H.	StA.	3	16	8.2	5.5	Chain	....	26x2½	R.	Exp.	Exp.	K.	None.	12	230	....	70
Matchless	7	2-3.22x3.7	Vee.	4	60.7	M.A.G.	OI.	CI.	Spl.	MP.	F.	Own.	3	13	7.7	4.6	Chain	62	28x3	S.	Band.	Exp.	K.	None.	16	.....	50	.....
Matchless	8	2-3.22x3.34	Vee.	4	59.8	J.A.P.	L.	CI.	Spl.	MP.	F.	Own.	3	13	7.7	4.6	Chain	62	28x3	S.	Band.	Exp.	K.	None.	16	.....	50	.....
Metro Tyler	2½	1-2.75x2.75	Ver.	2	16.3	Own.		CI.	Spl.	Non.		Alb.	2	14	7	....	Ch&B.	....	26x2¼	R.	Rim.	V Rim	P.	None.	12	120	35	40
Metro Tyler	2¾	1-2.79x3.46	Ver.	4	21.3	Black.	L.	CI.	Spl.	DP.	H.	Alb.	3	15	8.2	5.1	Chain	....	26x2¼	R.	Rim.	V Rim	K.	None.	12	190	45	67
Metro Tyler	6	2-2.79x3.46	Vee.	4	42.6	Black.	L.	CI.	Spl.	MP.	H.	Jar.	4	13.5	9.5	6.4†	Chain	57	26x2½	R.	Exp.	Exp.	K.	None.	16	260	60	95
Ner-a-Car	2¾	1-2.75x2.91	Ver.	2	17.3	Own.		CI.	MOF.	.....	H.	Non.	F.	11.1	5	....	Chain	59	26x2¼	R.	.....	Exp.	K.	Elec.	16	190	....	66
Norton	3½	1-3.11x3.93	Ver.	4	29.9	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	12	7.5	4.5	Chain	57	26x3	R.	Exp.	V Rim	K.	None.	16	270	....	79
Norton	3½	1-3.11x3.93	Ver.	4	29.9	Own.	OH.	Al.	Spl.	MP.	H.	StA.	3	12	7.5	4.5	Chain	55	26x2½	R.	Exp.	V Rim	K.	None.	9	.....	....	98
Norton	4	1-3.22x4.72	Ver.	4	38.5	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	12	7.5	4.5	Chain	57	26x3	R.	Exp.	V Rim	K.	None.	16	285	....	84
Omega	1½	1-2.36x2.36	Ver.	2	10.3	Own.		CI.	MOF.	Non.		Non.	1	6	.....	.....	Belt.	46	24x2	R.	Rim.	V Rim	P.	None.	10	100	25	25
Omega	2¼	1-2.75x2.51	Ver.	4	15.2	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	15.2	8	5.2	Ch&B.	54	26x2¼	R.	Rim.	V Rim	K.	None.	12	175	....	78
Omega	2½	1-2.75x2.99	Ver.	4	17.7	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	15.2	8	5.2	Ch&B.	54	26x2¼	R.	Rim.	V Rim	K.	None.	12	175	....	66
Omega	3	1-2.79x3.46	Ver.	2	21.2	Own.		CI.	Spl.	Non.		StA.	2	12	5.5	....	Ch&B.	54	26x2¼	R.	Rim.	V Rim	P.	None.	12	160	....	45
Omega	6	2-2.75x3.46	Vee.	4	41.4	J.A.P.	L.	CI.	Spl.	MP.	H.	Bur.	3	15.4	8.9	5.5	Chain	56	26x3	R.	V Rim	V Rim	K.	None.	16	260	....	120
F. & P.	3	1-2.75x3.56	Ver.	4	21.2	Ba&St.	Sl.	CI.	Spl.	MP.	H.	StA.	3	14.5	7.5	5'	Chain	58	26x2½	R.	Exp.	Exp.	K.	None.	16	.....	....	75
P. & M.	4½	1-3.3 x3.93	Ver.	4	33.8	Own.	L.	CI.	CS.	Ex.	H.	Own.	4	17.5	12	7.3†	Chain	53	28x2½	R.	V Rim	Band.	K.	Acet.	16	280	....	105
Powell	4¼	1-3.34x3.79	Ver.	4	33.2	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	12	8	5	Chain	56	26x3	R.	V Rim	V Rim	K.	Acet.	16	265	....	90
P. V.	2½	1-3.75x3.75	Ver.	2	15.2	Vill.		CI.	Spl.	DP.	H.	Bur.	2	12.6	5.4	....	Ch&B.	52	26x2¼	S.	Rim.	V Rim	K.	Elec.	12	155	....	54
P. V.	2¾	1-3.75x3.54	Ver.	4	21.2	J.A.P.	L.	CI.	Spl.	MP.	H.	Bur.	3	15	8.2	5.1	Chain	55	26x2¼	S.	V Rim	V Rim	K.	None.	12	210	....	76
P. V.	2¾	1-3.75x3.56	Ver.	4	21.2	Ba&St.	Sl.	CI.	Spl.	MP.	H.	Bur.	3	14	8	5	Chain	55	26x2¼	S.	V Rim	V Rim	K.	None.	12	212	....	76
P. V.	3½	1-3.11x3.75	Ver.	2	21.3	Vill.		CI.	Spl.	DP.	H.	Bur.	2	13	6	....	Ch&B.	52	26x2¼	S.	Rim.	V Rim	K.	Elec.	12	170	....	60
P. V.	5	2-2.53x2.99	Vee.	4	30.2	J.A.P.	L.	CI.	Spl.	MP.	H.	Bur.	3	.....	.....	.....	Chain	55	26x2½	S.	V Rim	V Rim	K.	None.	20	245	....	95
P. V.	6	2-2.75x3.46	Vee.	4	41.4	J.A.P.	L.	CI.	Spl.	MP.	H.	Bur.	3	.....	.....	.....	Chain	56	26x2½	S.	V Rim	V Rim	K.	None.	20	260	....	100
Quadrant	3½	1-3.11x3.93	Ver.	4	29.9	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	13	8	5	Chain	....	26x2¼	R.	Exp.	V Rim	K.	Acet.	12	.....	50	63
Quadrant	4½	1-3.42x4.33	Ver.	4	39.7	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	13	8	5	Chain	....	28x2¾	R.	Exp.	V Rim	K.	Acet.	18	280	60	90
Radco	2½	1-2.63x2.75	Ver.	2	14.9	Own.		CI.	Spl.	DP.	H.	Bur.	2	.....	.....	.....	Ch&B.	....	24x2	R.	Band.	V Rim	K.	None.	....	141	50	45
Raleigh	2¾	1-2.79x3.46	Ver.	4	21.2	Own.	L.	CI.	Spl.	DP.	H.	StA.	3	.....	.....	5.6	Chain	52	26x2¼	R.	V Rim	Exp.	K.	None.	16	208	....	58
Raleigh	6	2-3.03x2.95	HO.	4	42.7	Own.	L.	CI.	Spl.	MP.	H.	StA.	3	16.5	9	5.5	Ch&B.	56	26x2½	S.	V Rim	Exp.	K.	None.	20	295	....	.....
Ready	2½	1-2.75x2.75	Ver.	2	15.2	Vill.		CI.	Spl.	Non.		Non.	1	6.5	.....	.....	Belt.	50	26x2¼	R.	Rim.	V Rim	P.	None.	14	170	....	38
Ready	3½	1-2.75x3.54	Ver.	4	21.2	J.A.P.	L.	CI.	Spl.	MP.	H.	Bur.	3	12	8.8	6	Ch&B.	52	26x2½	R.	Rim.	V Rim	K.	None.	14	210	....	64
Ready	6	2-2.79x3.46	Vee.	4	42.5	Black.	L.	CI.	Spl.	MP.	H.	Bur.	3	12	7.5	5	Ch&B.	54	26x2½	R.	Exp.	Exp.	K.	None.	16	280	....	92
Rex	1¾	1-2.36x2.36	Ver.	2	10.3	Own.		CI.	MOF.	DP.	H.	Alb.	2	.....	.....	.....	Ch&B.	50	24x2	R.	Rim.	V Rim	P.	None.	5	122	....	33
Rex	2¾	1-2.75x3.56	Ver.	4	21.2	Ba&St.	Sl.	CI.	Spl.	MP.	H.	StA.	3	.....	.....	.....	Chain	54	26x2¼	R.	Exp.	V Rim	K.	None.	13	230	....	70
Rex	2¾	1-2.79x3.46	Ver.	4	21.2	Black.	OH.	Al.	Spl.	MP.	H.	StA.	3	.....	.....	.....	Chain	54	26x2¼	R.	V Rim	V Rim	K.	None.	13	205	....	74
Rex	4	1-3.38x3.38	Ver.	4	30.5	Ba&St.	Sl.	CI.	CS.	MP.	H.	StA.	3	.....	.....	.....	Chain	54	26x2½	R.	Exp.	V Rim	K.	None.	16	275	....	95
Rex	4¼	1-3.34x3.74	Ver.	4	33.5	J.A.P.	L.	Al.	Spl.	MP.	H.	StA.	3	.....	.....	.....	Chain	56	26x2¼	R.	V Rim	V Rim	K.	None.	16	275	....	90
Rover	2¾	1-2.48x3.14	Ver.	4	15.1	Own.	OH.	CI.	CS.	DP.	H.	Own.	3	14.3	9.5	6.3	Chain	51	26x2½	R.	Exp.	Exp.	K.	Elec.	10	198	....	85
Rover	4	1-3.34x3.46	Ver.	4	30.4	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	15.7	9	5.3	Chain	54	26x2½	R.	V Rim	Exp.	K.	None.	16	280	....	95
Rover	5	2-2.75x3.34	Vee.	4	39.9	J.A.P.	L.	CI.	Spl.	DP.	H.	Own.	3	16	9	5.5	Chain	56	28x3	R.	V Rim	Exp.	K.	None.	16	290	....	115
Rudge	3½	1-3.34x3.46	Ver.	4	30.4	Own.	OI.	Al.	Spl.	Non.		Non.	E.	7	3½	....	Belt.	55	26x2¼	R.	Rim.	V Rim	P.	None.	21	240	....	65
Rudge	3½	1-3.34x3.46	Ver.	4	30.4	Own.	OI.	Al.	Spl.	DP.	H.	Own.	4	16.3	11.1	7.1†	Chain	57	26x2¼	R.	V Rim	V Rim	K.	None.	21	280	....	85
Rudge	7	2-3.34x3.46	Vee.	4	59.9	Own.	OI.	Al.	Spl.	DP.	H.	Own.	4	13	8.8	5.7†	Chain	57	28x2¾	R.	V Rim	V Rim	K.	None.	21	306	....	100
Scott	3½	2-2.75x2.5	Inc.	2	29.5	Own.		Al.	Spl.	Exp.	F.	Own.	2	8.1	4.3	....	Chain	53	26x2½	R.	Exp.	V Rim	K.	None.	14	220	60	89
Scott	3¾	2-2.87x2.5	Inc.	2	32.4	Own.		CI.	Spl.	DP.	H.	Own.	3	12.6	6.9	4.5	Chain	55	28x2½	R.	Exp.	Exp.	K.	None.	24	260	65	110
Sirrah	2¼	1-2.44x2.75	Ver.	2	12.9	Own.		CI.	MOF.	Non.		Non.	1	6	.....	.....	Belt.	50	24x2½	R.	Rim.	V Rim	P.	None.	10	160	....	26
Sirrah	2¼	1-2.36x3.46	Ver.	4	15.1	Black.	L.	Al.	Spl.	DP.	H.	Bur.	2	.....	.....	.....	Ch&B.	54	24x2½	R.	Rim.	V Rim	K.	None.	10	180	....	52
Sirrah	2¾	1-2.75x2.99	Ver.	2	17.7	Union.		CI.	Spl.	DP.	H.	Bur.	2	.....	.....	.....	Ch&B.	54	26x2½	R.	Rim.	V Rim	K.	None.	10	190	....	50
Sirrah	2¾	1-2.79x3.46	Ver.	4	21.2	Black.	L.	Al.	Spl.	DP.	H.	Bur.	3	.....	.....	.....	Chain	54	26x2½	R.	Rim.	V Rim	K.	None.	10	220	....	64
Stanger	5	2-2.75x2.75	Vee.	2	32.8	Own.		CI.	Spl.	MP.	H.	StA.	3	11	7	4	Chain	56	26x3	S.	V Rim	V Rim	K.	None.	20	240	55	95
Sun	2½	1-2.55x2.75	Ver.	2	14.9	Own.		CI.	Spl.	DP.	H.	StA.	2	9.5	5.5	....	Ch&B.	52	26x2½	R.	Rim.	V Rim	K.	None.	12	160	45	46
Sunbeam	2¾	1-2.75x3.54	Ver.	4	20.9	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	15.5	9.3	5.6	Chain	52	26x2½	R.	V Rim	V Rim	K.	None.	10	215	....	95
Sunbeam	3½	1-3.34x3.46	Ver.	4	30.5	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	13.4	7.8	4.9	Chain	55	26x2½	R.	V Rim	V Rim	K.	None.	14	265	....	110
Sunbeam	4¼	1-3.46x4.15	Ver.	4	36.4	Own.	L.	CI.	Spl.	DP.	H.	Own.	3	14.2	8.3	5.2	Chain	57	26x2½	R.	V Rim	Exp.	K.	None.	14	280	....	120
Sunbeam	8	2-3.34x3.34	Vee.	4	60.2	J.A.P.	L.	Al.	Spl.	DP.	H.	Own.	3	.....	.....	.....	Chain	....	28x3	R.	Rim.	Exp.	K.	None.	20	.....	....	140
Tripp	1½	1-2 12x2.24	Ver.	2	7.9	Conna.		CI.	MOF.	Non.		Non.	1	7	.....	.....	Belt.	47	26x1¾	R.	Rim.	Exp.	P.	Acet.	8	86	30	24
Triumph	2½	1-2.64x2.75	Ver.	2	15.2	Own.		CI.	MOF.	DP.	H.	Own.	2	8.4	5	....	Ch&B.	49	26x2¼	R.	Rim.	V Rim	K.	Elec.	9	145	....	52
Triumph	2¾	1-2.83x3.34	Ver.	4	20.9	Own.	L.	Al.	S&P.	MO.	H.	Own.	3	12	8	5.3	Chain	50	26x2½	R.	Exp.	Exp.	K.	Elec.	14	200	....	.....
Triumph	3½	1-3.18x3.81	Ver.	4	30.5	Own.	OH†	Al.	Spl.	MO.	H.	Own.	3	12.4	7.4	4.5	Chain	56	26x3	R.	Rim.	V Rim	K.	Elec.	16	240	....	96
Triumph	4	1-3.34x3.81	Ver.	4	33.5	Own.	L.	CI.	Spl.	MO.	H.	Own.	3	13.5	8	4.7	Chain	56	26x2½	R.	Rim.	V Rim	K.	Elec.	12	230	....	93
Trump	3	1-2.75x3.54	Ver.	4	21.3	J.A.P.	L.	Al.	Spl.	MP.	H.	StA.	3	12	8.7	5.7	Chain	54	26x2½	R.	Exp.	V Rim	K.	None.	16	200	65	70
Trump	4	1-3.36x3.34	Ver.	4	30.5	J.A.P.	L.	Al.	Spl.	MP.	H.	StA.	3	8	6	4	Chain	54	26x2½	R.	Exp.	Exp.	K.	None.	18	240	70	95
Trump	6	2-2.99x3.34	Vee.	4	45.6	J.A.P.	L.	Al.	Spl.	MP.	H.	StA.	3	8	6	4	Chain	56	28x2¾	R.	Exp.	Exp.	K.	None.	22	250	75	120
Trump	8	2-3.26x3.62	Vee.	4	59.8	Anza.	OH.	Al.	S&P.	MP.	H.	StA.	3	8	6	4	Chain	56	28x3	R.	Exp.	Exp.	K.	None.	24	290	90	135
Velocette	2½	1-2.48x3.14	Ver.	2	15.1	Own.		CI.	S&P.	DP.	H.	Own.	3	14	9	5	Chain	52	24x2½	R.	Exp.	Exp.	K.	None.	12	180	45	65
Velocette	2¼	1-2.44x2.87	Ver.	2	13.4	Own.		CI.	S&P.	DP.	H.	Own.	2	9	5	....	Chain	50	24x2½	R.	Exp.	Exp.	K.	None.	12	170	35	63
Verus	1½	1-2.16x2.44	Ver.	4	8.9	Own.	L.	Al.	Spl.	Non.		Non.	1	7	.....	.....	Belt.	46	26x1½	R.	.....	Exp.	P.	None.	8	70	25	30
Verus	2¾	1-2.79x3.46	Ver.	4	21.2	Black.	L.	Al.	Spl.	MP.	H.	Bur.	3	.....	.....	.....	Chain	54	26x2½	R.	Exp.	Exp.	K.	None.	14	240	....	76
Victor	6	2-2.95x3.07	HO.	4	42.6	Own.	L.	CI.	CS.	MP.	H.	StA.	3	13	8	5	Chain	58	28x3	R.	Exp.	V Rim	K.	None.	20	270	60	97
Victoria	1½	1-2.16x2.44	Ver.	2	8.9	Vill.		CI.	Spl.	Non.		.....	2	13	6	....	Ch&B.	48	24x2½	R.	Rim.	V Rim	P.	None.	8	130	25	28
Victoria	2½	1-2.63x2.75	Ver.	2	15.0	Vill.		CI.	Spl.	DP.	H.	.....	3	14	8	5.5	Ch&B.	50	26x2½	R.	Rim.	V Rim	K.	None.	12	140	35	48
Victoria	3½	1-3.11x2.75	Ver.	2	20.8	Vill.		CI.	Spl.	DP.	H.	.....	3	14	8	5.5	Ch&B.	52	26x2¼	R.	Rim.	V Rim	K.	None	12	160	40	55
Wolf	1½	1-2.16x2.44	Ver.	2	8.9	Vill.		CI.	Spl.	Non.		Alb.	2	13	6	....	Ch&B.	46	24x2½	R.	Rim.	V Rim	P.	Elec.	8	.....	....	34
Wolf	2¼	1-2.36x3.46	Ver.	4	15.2	Black.	OH.	Al.	Spl.	DP.	H.	StA.	2	9.7	5.5	....	Chain	52	26x2½	R.	Rim.	V Rim	K.	None.	10	.....	....	67
Wolf	2½	1-2.63x2.75	Ver.	2	15.2	Vill.		CI.	Spl.	DP.	H.	StA.	2	9.7	5.5	....	Ch&B.	52	26x2½	R.	Rim.	V Rim	K.	None.	10	.....	....	46
Wolf	2¾	1-2.75x2.99	Ver.	4	17.7	J.A.P.	L.	CI.	Spl.	DP.	H.	Alb.	2	11	5.2	....	Ch&B.	54	26x2½	R.	Rim.	V Rim	P.	None.	10	.....	....	52
Wolf	2¾	1-2.79x3.46	Ver.	4	21.3	Black.	L.	Al.	Spl.	MP.	H.	Bur.	2	10	5.3	....	Chain	53	26x2½	R.	Rim.	V Rim	K.	None.	10	.....	....	60
Wolf	3½	1-3.11x2.75	Ver.	2	21.3	Vill.		CI.	Spl.	DP.	H.	StA.	2	9.7	5.5	....	Ch&B.	52	26x2½	R.	Rim.	V Rim	K.	None.	10	.....	....	49
Wolf	4¼	1-3.34x3.8	Ver.	4	33.5	Black.	L.	CI.	Spl.	MP.	H.	StA.	3	12	7.5	4.5	Chain	54	26x2½	R.	Rim.	V Rim	K.	None.	12	.....	....	80
Wooler	2¾	2-2.38x2.36	HO.	4	21.2	Own.	OH.	Al.	CS.	MO.	H.	Own.	3	15	7.2	4.7	Chain	56	26x2¼	S.	Band.	Exp.	K.	Acet.	16	185	....	54
Wooler	2¾	2-2.38x2.36	HO.	4	21.2	Own.	OI.	CI.	CS.	MO.	H.	Own.	3	16.3	7.7	5	Chain	56	26x2½	S.	Band.	Exp.	K.	Acet.	16	185	....	75
Wooler	3½	2-2.59x2.87	HO.	4	30.4	Own.	OH.	Al.	CS.	CO.	H.	Own.	3	15.3	7.2	4.7	Chain	56	26x2½	S.	Band.	Exp.	K.	Acet.	16	205	....	94
Zenith	2¾	1-2.75x3.54	Ver.	4	21.3	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	17.5	9	5.7	Chain	54	26x2½	R.	Exp.	V Rim	K.	None.	12	.....	....	72
Zenith	3½	2-2.67x2.67	HO.	4	30.3	Brad.	OH.	Al.	CS.	MP.	H.	StA.	3	13.8	7.1	4.7	Chain	59	26x2¼	R.	V Rim	V Rim	K.	None.	16	254	....	95
Zenith	8	2-3.36x3.34	Vee.	4	59.8	J.A.P.	L.	CI.	Spl.	MP.	H.	StA.	3	13	6.7	4.4	Chain	61	28x3	R.	V Rim	V Rim	K.	None.	19	345	....	115

For abbreviations see page 443.

American Isolated Electric

MAKE AND MODEL	GENERAL					ENGINE											
										COOLING				GOVERNOR		
	Plant Voltage	Drive	Starts Automatically?	Stops Automatically?	Type of Plant	Make	No. Cylinders, Bore and Stroke	Rated H. P. (N. A. C. C.)	Cycle Type	Medium	Circulation Through	Valve Arrangement	Oiling System	Type	Normal Speed	Type of Ignition System
Alamo Silent	32	Direct		Yes	Unit	Own	1-2¼x3½	8.10	4	Water	Radiator	Rot.Slee.	Hol-Crk.	Elec.	2000	Mag.
‡‡Cushman 15	32	Belt	Yes	No	Unit		1-4 x4	6.40	4	Water				Cent.	800	Bat.
C-Y-C		Direct	No	No	Unit	Own	1-3¾x4	5.62	4	Water	Tank	"L"H.	Cir-spl.	U.U.R.B.	1250	Bat.
Delco-Light 1266	32	Direct	No	Yes	Unit	Own	1-3 x5	3.60	4	Air		I.H.	Splash	U.U.R.B.	1250	Bat.
Delco-Light 346	65	Direct	No	Yes	Unit	Own	1-3¾x6	5.62	4	Air		I.H.	Splash	Elec.	1250	Bat.
Delco-Light 316	110	Direct	No	Yes	Unit	Own	1-3¾x6	5.62	4	Air		I.H.	Splash	Elec.	1250	Bat.
Delco-Light 320	110	Direct	No	Yes	Unit	Own	1-3¾x6	5.62	4	Air		I.H.	Splash	U.U.R.B.	1250	Bat.
Delco-Light 866	32	Direct	No	Yes	Unit	Own	1-2½x5	2.50	4	Air		I.H.	Splash	U.U.R.B.	1100	Bat.
Delco-Light 336	32	Direct	No	Yes	Unit	Own	1-3¾x6	5.62	4	Air		I.H.	Splash	U.U.R.B.	1250	Bat.
Delco-Light 1295-1296	110	Direct	No	Yes	Unit	Own	1-3 x5	3.60	4	Air		I.H.	Splash	U.U.R.B.	1250	Bat.
Delco-Light 1286	32	Direct	No	Yes	Unit	Own	1-3 x5	3.60	4	Air		I.H.	Splash	Cent.	1250	Bat.
Delco-Light 620	32	Direct	No	Yes	Unit	Own	1-2½x3	2.50	4	Air		I.H.	Splash	U.U.R.B.	1450	Bat.
Electrion	32	Direct	No	Yes	Unit	Own	4-		4	Water	Radiator	I.H.	Splash	Elec.	1600	Mag.
Everlite A	32-40	Direct	Yes	Yes	Unit	Own	1-2¾x4	3.02	4	Water	Radiator	"L"H.	Splash	U.U.R.B.	1400	Bat.
Fairbanks-Morse 1½	30-42	Belt	No	No	Unit		1-3½x5	4.90	4	Water	Radiator	I.H.		Cent.	500	Bat.
Fairbanks-Morse 3	30-42	Belt	No	No	Unit		1-4½x6	8.10	4	Water	Radiator	I.H.		Cent.	500	Bat.
Genco A&B	32	Direct	No	Yes	Unit	Own	1-3¼x3	4.22	4	Water	Radiator	I.H.	Splash	U.U.R.B.	1200	Bat.
Genco C&D	110	Direct	No	Yes	Unit	Own	2-3¼x4	8.45	4	Water	Radiator	I.H.	Splash	U.U.R.B.	1200	Mag.
Globe	32-40	Direct	No	No	Unit	Own	1-2¾x4	3.02	4	Water	Tank	"L"H.	Splash	Cent.	1300	Bat.
Globe	125	Direct	No	No	Unit	LeRoi	4-3⅛x4½	15.63	4	Water	Radiator	"L"H.	Cir-spl.	Cent.	1200	Mag.
Holt C	110	Direct	Yes	Yes	Unit	Own	1-3 x3	3.60	4	Water	Tank	I.H.	Cir-spl.	Elec.	1275	Bat.
Holt D	110	Direct	No	No	Unit	Own	1-2½x3	2.50	4	Water	Tank	I.H.	Cir-spl.	Elec.	1275	Mag.
Hoosierlite	32	Direct	No	Yes	Unit	Own	1-4½x5	8.10	4	Water	Tank	"L"H.	Splash	Cent.	700	Mag.
Independent	32	Gear	Yes	No	Unit	Own	1-3¾x4	5.62	4	Water	Tank	"L"H.	Cir-spl.	Cent.	750	Bat.
Ker-O-El A&B	32	Direct	No	Yes	Unit	Own	1-2⅝x3¼	2.24	4	Water	Tank	I.H.	Splash	U.U.R.B.	1500	Bat.
Kero Lectric	32	Direct	No	Yes	Unit	Own	1-3¼x3¼	4.22	4	Water	Radiator	"L"H.	Cir-spl.	Elec.	1150	Mag.
Kewanee	32-110	Direct	No	Yes	Unit	Own	1-3¼x4	4.22	4	Water	Tank	S.Slee.	Cir-spl.	Cent.		Bat.
Kohler B	110	Direct	Yes	Yes	Unit	Own	4-2 x3	6.40	4	Water	Radiator	I.H.	Cir-spl.	Cent.	1000	Mag.
Lalley-Light K	32	Direct	No	No	Unit	Own	1-2½x2		2	Water	Tank	2 Port.	Splash	Cent.	1800	Bat.
Lalley-Light HU	32	Direct	No	No	Unit	Own	1-2⅝x2		2	Water	Tank	2 Port.	Splash	Cent.	1800	Bat.
Langstadt 2-C-6	110	Direct	No	No	Unit	LeRoi	4-3⅛x4½	15.63	4	Water	Radiator	"L"H.	Cir-spl.	Cent.	1100	Mag.
Langstadt 2-B-1½	32	Direct	No	No	Unit	Own	1-3⅛x4½	3.91	4	Water	Radiator	"L"H.	Cir-spl.	Cent.	1200	Bat.
Lincoln Light 22	32-40	Direct	No	Yes	Unit	Own	1-3 x3	3.60	2	Water	Radiator	2 Port.	Splash	Elec.	1200	Bat.
Main Power Light	32	Belt	No	No	Separate	Own	1-3½x5	4.90	4	Water	Hopper	I.H.	Splash	Elec.	500	Mag.
Main Power Light	32	Belt	No	No	Separate	Own	1-3½x5	4.90	4	Water	Hopper	I.H.	Splash	Cent.	450	Mag.
Main Power Light	110	Belt	No	No	Separate	Own	1-	7.00	4	Water	Hopper	I.H.	Splash	Elec.		Mag.
Marco	32	Chain	No	No	Separate	New Way	4-4½x4½	32.40	4	Air	Hopper	I.H.	Splash	Cent.	800	Mag.
National	32	Chain		Yes	Unit	New Way	1-	5.00	4	Air		I.H.	Splash	Cent.	750	Mag.
Perfection SA	32-110	Direct	No	Yes	Unit	Own	1-3¼x3¼	4.22	4	Water	Radiator	"L"H.	Splash	Elec.	1150	Bat.
Phelps T	32	Direct	No	Yes		Own	1-3 x4	3.60	4	Water	Tank	"L"H.	Cir-spl.	Cent.	1200	Bat.
Phelps D	32	Direct	No	Yes		Own	1-3 x4	3.60	4	Water	Tank	"L"H.	Cir-spl.	Cent.	1335	Bat.
Radiant 9	32	Direct	No	No	Unit	Own	1-3 x3	3.60	4	Water	Radiator		Splash	Elec.	1250	Bat.
Reeco	32	Direct	No	No	Unit	Own	1-4 x5	6.40	4	Water	Hopper	I.H.	Splash	Cent.	475	Mag.
Regalite	32	Direct	No	No	Unit	Own	1-3¼x3½	4.22	4	Air		I.H.	Cir-spl.			Bat.
Simms B1	12	Direct	No	No	Unit	Own	1-2⅛x2⅛		2	Air		2 Port.	Splash	Elec.	1600	Mag.
Simms B1	32	Direct	No	No	Unit	Own	1-2⅛x2⅛		2	Air		2 Port.	Splash	Elec.		Mag.
Simms B1	110	Direct	No	No	Unit	Own	1-2⅛x2⅛		2	Air		2 Port.	Splash	Elec.		Mag.
Stearns H	32	Direct	Yes	Yes	Unit	Own	1-3 x3	3.60	4	Water	Tank	I.H.	Cir-spl.	Elec.	1150	Mag.
Stearns Simplex	32	Direct	No	No	Unit	Own	1-2⅝x3	2.81	4	Water	Tank	I.H.	Cir-spl.	Elec.	1250	Mag.
Stearns DeLuxe	32	Direct	Yes	Yes	Unit	Own	1-2⅝x3	2.81	4	Water	Tank	I.H.	Cir-spl.	Elec.	1250	Mag.
Sturtevant	110-250	Direct	No	No	Unit	Own	4-3¼x5	16.90	4	Water	Tank	"L"H.	Hol-crk.	Cent.	900	Mag.
Sturtevant	110-250	Direct	No	No	Unit	Own	4-4 x6	25.60	4	Water	Tank	T.H.	Hol-crk.	Cent.	750	Mag.
Sturtevant	110-250	Direct	No	No	Unit	Own	6-4 x6	38.40	4	Water	Tank	T.H.	Hol-crk.	Cent.	750	Mag.
Sunbeam C	32	Direct	Yes	Yes	Unit	Own	1-2⅝x3	2.00	4	Water	Tank	"L"H.	Splash	Elec.	1750	Bat.
Swanlite B	32-40	Direct	Yes	Yes	Unit	Own	1-3 x4	3.60	4	Water	Tank	"L"H.	Splash	U.U.R.B.	1200	Bat.
Upco Light M	32	Direct	No	Yes	Unit	Own	1-2⅝x3½	2.81	4	Water	Tank	"L"H.	Splash	Cent.		Bat.
Upco Light	32-110	Direct	No	No	Unit	LeRoi	2-3⅛x4½	7.81	4	Water	Radiator	"L"H.	Cir-spl.	Cent.		Mag.
Upco Light	32-110	Direct	No	Yes	Unit	Own	2-3⅛x4½	7.81	4	Water	Radiator	"L"H.	Cir-spl.	Cent.	1000	Mag.
Western Elec. B-90	32	Direct	No	Yes	Unit	Own	1-3½x4½	4.90	4	Air	Gener	I.H.	Cir-spl.	Cent.	1000	Bat.
Western Elec. 90	32	Belt	No	No	Separate	Inter	1-4⅛x5½	6.80	4	Water	Hopper	I.H.	Hol-crk.	Cent.	600	Mag.
Western Elec. 30-D	110	Belt	No	No	Separate	Full & J.	1-	7.00	4	Water	Hopper	I.H.	M.f.m.o.	Cent.	400	Mag.
Western Elec. 30-C	110	Belt	No	No	Separate	Full & J.	1-	7.00	4	Water	Hopper	I.H.	M.f.m.o.	Cent.	400	Mag.
Westinghouse E-30	32	Direct	No	Yes	Unit	Own	1-2½x5	2.50	4	Air		I.H.	Splash	U.U.R.B.	1250	Bat.
Westinghouse E-30	32	Direct	No	Yes	Unit	Own	1-3⅝x5	4.56	4	Air		I.H.	Splash	Cent.	1200	Bat.
Willys-Light Junior	32	Direct	No	Yes	Unit	Auto-Lite	1-2⅛x2⅛		2	Air		2 Port.	Splash		1700	Bat.
Willys-Light L2	32	Direct	No	Yes	Unit	Auto-Lite	1-2⅞x3½	3.31	4	Air		S.Slee.	Splash		1250	Bat.
Wisconsin 2&3	32	Belt	No	No	Separate	Own	4-4½x5½	32.40	4	Water	Hopper	"L"H.	M.f.m.o.	Cent.	400	Bat.
Wisconsin 4	32	Belt	No	No	Separate	Own	4-5½x6½	48.40	4	Water	Hopper	"L"H.	M.f.m.o.	Cent.	380	Bat.
Worthington	32	Direct	No	No	Unit	Own	1-		4	Water	Radiator	I.H.	M.f.m.o.	Cent.	550	Bat.

‡‡—Taken from 1922 Specifications

ENGINE:
I. H.—In Head
"L" H.—"L" Head
"T" H.—"T" Head
S. Slee.—Sliding Sleeve
Rot. Slee.—Rotating Sleeve
Gener—Generator
Inter—International
Full. & J.—Fuller and Johnson
Cir. Spl.—Circulating Splash
Hol. Crk.—Hollow Crankshaft
M. f. m. o.—Multi Feed Mechanical Oiler

TYPE OF ENGINE GOVERNOR:
Cent—Centrifugal
Elec—Electric
U. U. R. B.—Ungoverned Unit Regulated by battery

TYPE OF IGNITION:
Mag—Magneto
Bat—Battery

Plant Specifications

CRANKSHAFT BEARINGS		FUEL SYSTEM		GENERATOR						BATTERY							MAKE AND MODEL
								BEARINGS		RATING (Amp. hrs.)							
Number	Type	Type	Recommended Fuel	K.W. Rating at Normal Voltage	No. of Poles	Field Connections for Cranking	Field Connections for Generating	Number	Type	8-Hour Basis	72-Hour Basis	Battery of Line Voltage Used?	Low Voltage Cranking Battery Used?	Type of Automatic Stopping Device	Power Pulley Provided?	Ampere Hour Meter Furnished?	
2	Plain & Ball...	Pump.....	Gas.....	1	2	Comp...	Comp...	2	P.&B...	134	191	Yes.....	.....	A.H.M.....	No.....	Yes.....	Alamo.....Silent
2	Plain.....	.....	Gas.....	1	2	Comp...	Bronze..	2	Plain....	Opt.....	Opt.....	.....	.....	.....	Yes.....	No.....	Cushman.....15‡‡
2	Roller.....	Suc.L.....	Ker.....	1½	2	Comp...	Shunt...	1	Ball.....	120	.....	Yes.....	No.....	P.Q.F.....	Yes.....	No.....	C-Y-C.....
2	Ball & roller...	Suc.L.....	G-N.G..	1¼	4	Comp...	Shunt...	None...	.....	.....	160	Yes.....	.....	P.Q.F.....	No.....	No.....	Delco-Light.....1266
2	Ball & roller...	Pump.....	G-N.G..	3	6	Comp...	Shunt...	None...	.....	.....	160	Yes.....	No.....	P.Q.F.....	No.....	No.....	Delco-Light.....346
2	Ball & roller...	Pump.....	G-N.G..	3	6	Comp...	Shunt...	None...	.....	.....	160	Yes.....	.....	P.Q.F.....	No.....	No.....	Delco-Light.....316
2	Ball & roller...	Pump.....	G-N.G..	2½	6	Comp...	Shunt...	None...	.....	.....	160	Yes.....	.....	P.Q.F.....	Opt.....	No.....	Delco-Light.....320
2	Ball & roller...	Suc.L.....	G-N.G..	¾	4	Comp...	Shunt...	None...	.....	.....	160	Yes.....	.....	P.Q.F.....	No.....	No.....	Delco-Light.....866
2	Ball & roller...	Pump.....	G-N.G..	2½	6	Comp...	Shunt...	None...	.....	.....	320	Yes.....	.....	P.Q.F.....	Opt.....	No.....	Delco-Light.....336
2	Ball & roller...	Suc.L.....	G-N.G..	1¼	4	Comp...	Shunt...	None...	.....	.....	80	Yes.....	.....	P.Q.F.....	No.....	No.....	Delco-Light...1295-1296
2	Ball & roller...	Pump.....	G-N.G..	1¼	4	Comp...	Shunt...	None...	.....	.....	160	Yes.....	.....	P.Q.F.....	Yes.....	No.....	Delco-Light.....1286
2	Plain & Ball...	Suc.L.....	G-N.G..	½	4	Shunt...	Shunt...	None...	.....	.....	80	Yes.....	.....	P.Q.F.....	No.....	No.....	Delco-Light.....620
2	Ball.....	Pump.....	Gas.....	1	2	Comp...	Comp...	2	Ball.....	80	.....	Yes.....	No.....	A.H.M.....	Opt.....	Yes.....	Electrion.....
2	Ball.....	Suc.L.....	GorK...	1¼	2	Comp...	Shunt...	1	Plain....	Opt.....	Opt.....	Yes.....	No.....	Vol.R	Yes.....	No.....	Everlite.....A
2	Plain.....	Suc.L.....	GorK...	½	2	Comp...	Shunt...	2	Ball.....	60	.....	Yes.....	No.....	.....	Yes.....	No.....	Fairbanks-Morse....1½
2	Plain.....	Suc.L.....	GorK...	1½	4	Comp...	Shunt...	2	Ball.....	160	.....	Yes.....	No.....	.....	Yes.....	No.....	Fairbanks-Morse.....3
2	Plain.....	Suc.L.....	GorK...	1	2	Comp...	Shunt...	2	Ball.....	80-136	100-167	Yes.....	No.....	A.H.M.....	Yes.....	Yes.....	Genco.....A&B
2	Plain.....	Suc.L.....	GorK...	3	4	Comp...	Shunt...	2	Plain....	80-136	100-167	Yes.....	No.....	A.H.M.....	Yes.....	Yes.....	Genco.....C&D
2	Plain.....	Grav.....	Gas.....	1¼	4	Comp...	Shunt...	2	Plain....	Opt.....	Opt.....	Yes.....	No.....	.....	Yes.....	.....	Globe.....
2	Plain.....	Grav.....	Gas.....	5	4	Comp...	Comp...	1	Plain....	Opt.....	Opt.....	Yes.....	No.....	.....	No.....	.....	Globe.....
2	Plain.....	Grav.....	Gas.....	1¼	4	Comp...	Shunt...	2	Plain....	40	45	No.....	Yes.....	.....	Yes.....	No.....	Holt.....C
2	Plain.....	Grav.....	Gas.....	¾	4	.....	Shunt...	2	Plain....	.....	.....	.....	.....	.....	Yes.....	No.....	Holt.....D
2	Roller.....	Pump.....	Gas.....	1½	4	Shunt...	Shunt...	1	Roller...	180	240	No.....	No.....	A.H.M.....	Yes.....	Yes.....	Hoosierlite.....
2	Ball.....	Suc.L.....	GorK...	1½	4	Comp...	Comp...	2	Ball.....	163	236	Yes.....	No.....	P.Q.F.....	Yes.....	Yes.....	Independent.....
1	Plain.....	Suc.L.....	GorK...	1	4	Comp...	Shunt...	1	Plain....	.....	80-160	Yes.....	No.....	Vol.R	No.....	Opt.....	Ker-O-El.....A&B
3	Plain & Ball...	Suc.L.....	GorK...	1	2	Shunt...	Shunt...	3	P.&B...	.....	.....	Yes.....	.....	.....	Yes.....	Opt.....	Kero Lectric.....
2	Ball.....	Vac.....	Gas.....	1½	4	Comp...	Shunt...	2	Ball.....	Opt.....	.....	Yes.....	No.....	P.Q.F.....	Yes.....	Opt.....	Kewanee.....
3	Plain & Ball...	Vac.....	G-N.G..	1½	4	Shunt...	Comp...	1	Ball.....	.....	.....	.....	Yes.....	P.Q.F.....	No.....	No.....	Kohler.....B
2	Ball.....	Grav.....	Gas.....	1	2	Shunt...	C.&S....	1	Plain....	80	112	Yes.....	No.....	P.Q.F.....	No.....	No.....	Lalley-Light.....K
2	Ball.....	Pump.....	Gas.....	1¼	2	Shunt...	C.&S....	2	Ball.....	80	112	Yes.....	No.....	P.Q.F.....	No.....	No.....	Lalley-Light.....HU
2	Plain.....	Vac.....	GorK...	6	4	Comp...	Comp...	1	Plain....	88-210	95-305	Yes.....	No.....	.....	No.....	Opt.....	Langstadt.....2-C-6
2	Plain.....	Suc.L.....	GorK...	1½	4	Comp...	Shunt...	1	Plain....	88-150	128-218	Yes.....	No.....	.....	Yes.....	Opt.....	Langstadt.....2-B-1½
2	Ball.....	Suc.L.....	Gas.....	1¼	4	Shunt...	Shunt...	.....	Plain....	130	205	Yes.....	No.....	P.Q.F.....	Yes.....	No.....	Lincoln Light.....22
2	Plain.....	Suc.L.....	G-N.G..	½	2	C.&S....	Shunt...	2	Plain....	60	84	No.....	Yes.....	.....	Yes.....	Yes.....	Main Power Light.....
2	Plain.....	Suc.L.....	G-N.G..	1	2	Comp...	Shunt...	2	Plain....	60	84	No.....	.....	.....	Yes.....	Yes.....	Main Power Light.....
2	Plain.....	Suc.L.....	G-N G..	3	4	Comp...	Shunt...	2	Plain....	90	120	No.....	.....	.....	.....	.....	Main Power Light.....
2	Plain.....	Grav.....	G-N.G..	1½	4	Shunt...	Shunt...	2	Ball.....	112-225	.....	Yes.....	No.....	A.H.M.....	Yes.....	No.....	Marco.....
2	Plain.....	Grav.....	GorK...	1½	4	Comp...	Shunt...	2	Ball.....	160	235	Yes.....	.....	A.H.M.....	Yes.....	Yes.....	National.....
2	Plain.....	Suc.L.....	GorK...	1¼	.....	Comp...	Shunt...	2	Ball.....	.....	.....	Yes.....	No.....	V.&C.R....	Yes.....	No.....	Pertection.....SA
2	Ball.....	Suc.L.....	G-N.G..	1	4	Comp...	C.&S....	1	Ball.....	Opt.....	Opt.....	Yes.....	No.....	Vol.R	No.....	No.....	Phelps.....T
2	Ball.....	Suc.L.....	G-N.G..	1½	4	Comp...	C.&S....	2	Ball.....	Opt.....	Opt.....	Yes.....	No.....	Vol.R	Yes.....	No.....	Phelps.....D
2	Plain.....	Vac.....	Gas.....	1¼	4	Shunt...	Shunt...	1	Plain....	120	168	.....	No.....	P.Q.F.....	Yes.....	No.....	Radiant.....9
2	Plain.....	Suc.L.....	Ker.....	1¼	4	Shunt...	Shunt...	2	Plain....	Opt.....	Opt.....	Yes.....	.....	.....	Yes.....	.....	Reeco.....
2	Plain.....	Suc.L.....	GorK...	¾	4	Shunt...	Shunt...	.....	.....	80	.....	Yes.....	Yes.....	.....	Opt.....	.....	Regalite.....
1	Ball.....	Pump.....	Gas.....	½	6	Shunt...	Shunt...	1	Ball.....	160	230	Yes.....	No.....	P.Q.F.....	Yes.....	No.....	Simms.....B1
1	Ball.....	Pump.....	Gas.....	½	6	Shunt...	Shunt...	1	Ball.....	70	100	Yes.....	No.....	P.Q.F.....	Yes.....	No.....	Simms.....B1
1	Ball.....	Pump.....	Gas.....	½	6	Shunt...	Shunt...	1	Ball.....	None...	None...	.....	.....	P.Q.F.....	Yes.....	No.....	Simms.....B1
2	Ball.....	Grav.....	GorK...	1½	4	Comp...	Shunt...	1	Ball.....	Opt.....	Opt.....	Yes.....	Yes.....	A.H.M.....	Yes.....	Yes.....	Stearns.....H
2	Plain.....	Grav.....	GorK...	¾	2	None...	Shunt...	1	Plain....	None...	None...	No.....	No.....	V.&C.R....	No.....	No.....	Stearns.....Simplex
2	Ball.....	Grav.....	GorK...	¾	2	Comp...	Shunt...	1	Plain....	90-150	110-180	Yes.....	No.....	A.H.M.....	Yes.....	Yes.....	Stearns.....DeLuxe
2	Plain.....	Pump.....	G-N.G..	5	6	.....	Comp...	1	Plain....	.....	.....	.....	.....	.....	Opt.....	No.....	Sturtevant.....
3	Plain.....	Pump.....	G-N.G..	10	6	.....	Comp...	1	.....	.....	.....	.....	.....	.....	Opt.....	No.....	Sturtevant.....
4	Plain.....	Pump.....	G-N.G..	15	6	.....	Comp...	1	Plain....	.....	.....	.....	.....	.....	Opt.....	No.....	Sturtevant.....
2	Ball.....	Pump.....	Gas.....	¾	4	Comp...	Shunt...	.....	.....	44	75	Yes.....	No.....	V.&C.R....	Yes.....	No.....	Sunbeam.....C
2	Plain.....	Suc.L.....	GorK...	1¼	4	Comp...	Shunt...	2	Plain....	Opt.....	Opt.....	Yes.....	No.....	Vol.R	Yes.....	No.....	Swanlite.....B
1	Plain.....	Grav.....	Gas.....	1	4	Shunt...	Shunt...	1	Ball.....	120	165	Yes.....	No.....	None.....	Opt.....	No.....	Upco Light.....M
2	Plain.....	Vac.....	Gas.....	2½	4	Comp...	Comp...	1	Ball.....	120	165	Yes.....	No.....	.....	Yes.....	No.....	Upco Light.....
2	Plain.....	Vac.....	Gas.....	3½	4	Comp...	Comp...	1	Ball.....	120	165	Yes.....	No.....	P.Q.F.....	Yes.....	No.....	Upco Light.....
1	Plain.....	Pump.....	GorK...	.....	4	Comp...	Shunt...	1	Plain....	90	.....	Yes.....	No.....	Curr.R.....	Yes.....	No.....	Western Elec.....B-90
2	Plain.....	Pump.....	GorK...	2¼	4	Shunt...	Shunt...	2	Plain....	90	.....	Yes.....	No.....	None.....	Yes.....	No.....	Western Elec.....90
2	Plain.....	Suc.L.....	GorK...	3	4	.....	Comp...	2	Plain....	None...	None...	.....	.....	None.....	Yes.....	No.....	Western Elec.....30-D
2	Plain.....	Suc.L.....	GorK...	3	4	.....	Comp...	2	Plain....	90	.....	Yes.....	.....	None.....	Yes.....	No.....	Western Elec.....30-C
2	Plain.....	Suc.L.....	G-N.G..	¾	2	Comp...	Shunt...	.....	.....	140	198	Yes.....	No.....	A.H.M.....	No.....	No.....	Westinghouse.....E-30
2	Plain.....	Suc.L.....	G-N.G..	1½	4	Comp...	Shunt...	.....	.....	140-181	198-266	Yes..	No....	A.H.M.....	Yes.....	No.....	Westinghouse.....E-30
2	Plain.....	Suc.L.....	GorK...	¾	4	Shunt...	Shunt...	2	Plain....	160	80	Yes.....	No.....	P.Q.F.....	No.....	No.....	Willys-Light.....Junior
2	Plain.....	Suc.L.....	GorK...	1¼	4	Shunt...	Shunt...	2	Plain....	160	225	Yes.....	No.....	A.H.M.....	No.....	Yes.....	Willys-Light.....L-2
2	Plain.....	Grav.....	Gas.....	(½) (¾)	.....	Shunt...	Shunt...	2	Plain....	(66-120) (88-180)	.....	Yes.....	Yes.....	None.....	Opt.....	Opt.....	Wisconsin.....2&3
2	Plain.....	Grav.....	Gas.....	¾	.....	Shunt...	Shunt...	2	Plain....	120-210	.....	Yes.....	Yes.....	None.....	Opt.....	Opt.....	Wisconsin.....4
2	Plain.....	Pump.....	GorK...	1¼	4	Shunt...	Shunt...	2	Ball.....	120-180	.....	Yes.....	No.....	.....	Yes.....	No.....	Worthington.....

FUEL SYSTEM:
Grav—Gravity
Suc. L.—Suction Lift
Vac—Vacuum Tank

FUEL RECOMMENDED:
Gas—Gasoline
Ker—Kerosene
G. or K.—Gasoline or Kerosene
G-N. G.—Gas, Kerosene or Natural Gas

FIELD CONNECTIONS:
Comp—Compound
C. & S.—Compound and Shunt

AUTOMATIC STOPPING DEVICE:
A. H. M.—Ampere Hour Meter
V. & C. R.—Voltage and Current Relay
Curr. R.—Current Relay
Vol. R.—Voltage Relay
P. Q. F.—Predetermined Quantity of Fuel

BEARINGS:
P. & B.—Plain and Ball

American Marine Engine Specifications

Model	Manufacturers H.P. Rating	Cycle Type	No. of Cylinders Bore and Stroke	Normal R.P.M.	Weight Complete (Lbs.)
Acme					
1923	8	4	1-6¼x7½	360	1470
1923	10	4	1-7¼x9	340	1850
1923	16	4	2-6¼x7½	360	2250
1923	20	4	2-7¼x9	340	2925
1923	27	4	2-8¼x10	320	3975
1923	25	4	3-6¼x7½	375	2550
1923	35	4	3-7¼x9	350	4075
1923	45	4	3-8¼x10	325	5050
1923	55	4	3-8¾x10½	300	6680
1923	40	4	4-6¼x7½	450	3475
1923	50	4	4-7¼x9	375	5160
1923	65	4	4-8¼x10	350	6675
1923	85	4	4-8¾x10½	325	8200
1923	65	4	6-6¼x7½	500	4825
1923	80	4	6-7¼x9	425	6950
1923	100	4	6-8¼x10	400	8900
1923	125	4	6-8¾x10½	375	10800
1923	22-25	4	2-6¼x7½	500-600	2150
1923	35-40	4	3-6¼x7½	500-600	2450
1923	50-55	4	4-6¼x7½	500-600	3350
1923	75-80	4	6-6¼x7½	500-600	4800
Aerothrust					
1923	3	2	2-2½x2¼	250-1600	85
1923	5	2	2-3 x3½	250-1300	115
Amphion					
Outboard	3	2	2-2½x2¼	900	80
Inboard	3	2	2-2½x2½	900	60
Anderson					
1923	4½	4	1-4½x5	600	400
1923	8½	4	2-4½x5	600	600
1923	12½	4	2-5 x6	550	1000
1923	25	4	4-5 x6	550	1600
1923	50	4	4-7 x8½	450	3000
1923	15-30	4	4-4 x5	500-1000	750
1923	20-30	4	4-4 x5	750	800
American					
1923	2½	2	1-3¼x3½	200-800	125
1923	3½-4	2	1-3⅞x3½	250-800	150
1923	6	2	1-4¾x4½	250-800	200
1923	8	2	1-5¼x5	100-500	335
1923	7-8	2	2-3⅞x3½	250-800	280
1923	14	2	2-4¾x4½	250-750	350
1923	20	2	2-5¼x5	100-600	495
1923	14	4	4-3½x4	100-1000	650
Automatic					
Open base	3	4	1-4¼x5	500	300
Open base	6	4	2-4¼x5	500	525
Open base	9	4	3-4¼x5	500	760
Open base	6	4	1-5½x7	400	643
Open base	12	4	2-5½x7	400	1115
Open base	18	4	3-5½x7	400	1425
Open base	24	4	4-5½x7	400	1800
Open base	25	4	2-7½x9	350	2625
Open base	37	4	3-7½x9	350	3465
Open base	50	4	4-7½x9	350	4430
Open base	75	4	3-10x14	275	8000
Open base	100	4	4-10x14	275	11780
Enclosed	12	4	2-5 x7	550	1000
Enclosed	16	4	2-5½x7	550	1100
Enclosed	20	4	3-5 x7	550	1450
Enclosed	26	4	3-5½x7	550	1450
Enclosed	30	4	4-5 x7	550	1850
Enclosed	45	4	6-5 x7	550	2700
Enclosed	40	4	4-5½x7	550	1950
Enclosed	60	4	6-5½x7	550	2900
Enclosed	50	4	4-6½x8	500	3000
Enclosed	75	4	6-6½x8	500	4500
Enclosed	70	4	4-7½x9	500	4000
Enclosed	105	4	6-7½x9	500	6000
Enclosed	100	4	4-8½x10	500	6000
Enclosed	150	4	6-8½x10	500	9000
B. O. E. C.					
‡‡A12¾	50	4	1-12¾x18	250	17000
Barker					
A	1¼	2	1-3 13/16x3½	500	110
B	2½	2	1-4 1/16x4¼	500	170
C	4	2	1-4 7/16x5	450	220
D	6½	2	1-5 1/16x6½	400	350
G	8	2	2-4 7/16x5	450	380
Bolinders					
‡NEII	500	2	4-20½x29½	160	102000
‡NEII	350	2	4-16½x18½	225	50000
‡NEII	270	2	4-15x16½	250	38000
‡NEI	175	2	2-16½x18½	225	26000
‡NEI	135	2	2-15x16½	250	19000
‡NEI	100	2	2-13x13⅜	325	12000
‡NEI	80	2	2-11⅞x12 3/16	350	9075
‡NEI	60	2	2-10⅝x11	375	7040
‡NEI	50	2	2-9 7/16x9½	425	5225
‡NEI	40	2	2-8½x9 1/16	450	4180
‡NEI	30	2	2-7 21/32x8¼	450	2860
‡NEI	24	2	2-6 11/16x7½	500	2530
‡NEI	20	2	2-6 1/16x6 11/16	550	1760
Brennan					
M	17-20	4	4-4 x5	1000	625
M Sp	30	4	4-4 x5	1400	625
B	25-35	4	4-4½x5	800	750
Brennan (Con't'd)					
B Sp	35-40	4	4-4½x5	1000	700
6B	40	4	6-4½x5	650	1250
	60	4	6-4 x5½	1200	1000
	100	4	6-4 x6½	1500	1200
Bridgeport					
40	4½	2	1-4½x5	500	225
50	6	2	1-5¼x5¼	500	260
80	9	2	2-4½x5	500	375
100	12	2	2-5¼x5¼	500	470
R-1	8	2	1-4½x5	800	225
S-1	11	2	1-5¼x5¼	800	260
R-2	16	2	2-4½x5	800	375
S-2	22	2	2-5¼x5¼	800	470
71	7	4	1-5½x6½	500	600
142	14	4	2-5½x6½	500	850
182	20	4	2-6½x7½	400	1200
243	30	4	3-6½x7½	400	1800
363	45	4	3-7½x9	375	3200
484	60	4	4-7½x9	375	4000
Buffalo					
AA	3-4	4	2-3 x4	700	240
B	5-6	4	2-3½x5	600	400
BA	14-30	4	4-3½x5	800-1600	690
S	16-20	4	4-3¾x5	800	A. 560 I. 710
MY	25-30	4	4-4¾x5	800	A. 745 I. 929
CM	40-60	4	4-5½x7	600-900	A. 1430 I. 1730
CE	50-80	4	4-6¾x9	500-800	A. 2100 I. 2300
PP	10-12	4	2-5 x6½	400	1170
J	13-15	4	2-6 x7½	350	1400
K	20-22	4	2-7 x9	350	2100
PPP	20-24	4	1-5 x6½	400	1960
JJ	26-30	4	4-6 x7½	350	2525
KK	40-45	4	4-7 x9	350	3655
MKK	45-50	4	4-7½x9	350	3800
KKK	60-70	4	6-7 x9	350	4850
MKKK	70-80	4	6-7½x9	350	5100
W	85-100	4	4-10x12	300	8200
WW	125-150	4	6-10x12	300	12800
Busch-Sulzer					
‡‡B	120	4	4-	300	....
‡‡B	180	4	4-	300	....
‡‡B	250	4	4-	257	....
‡‡B	365	4	4-	225	....
‡‡B	520	4	4-	200	....
‡‡CM	650	2	4-	165	....
‡‡CM	980	2	6-	165	....
‡‡CM	1300	2	4-	110	....
‡‡CM	1950	2	6-	110	....
‡‡CM	2500	2	4-	90	....
Brownback					
E	2-3	2	1-3¼x3	900	42
G	4	4	2-3½x5	900	125
Cady					
	1½	2	1-3 x2½	1000	45
	3	2	1-3⅝x3¾	700	90
	4	2	1-4¼x4	700	135
	6	2	2-3⅝x3¾	700	140
	8	2	2-4¼x4	700	205
	12-16	4	4-3¾x4	1000	300
Caille					
Outboard	2	2	1-2⅝x2½	700	85
Outboard	2	2	1-2⅝x2½	700	71
Outboard	2	2	1-2⅝x2½	700	60
Outboard	2	2	1-2⅝x2½	700	40
	2½	2	1-3¼x3½	200-800	125
	3½-4	2	1-3⅞x3½	250-800	150
	6	2	1-3¾x4½	250-800	200
	8	2	1-5¼x5	100-500	335
	7-8	2	2-3⅞x3½	250-800	280
	14	2	2-4¾x4½	250-750	350
	20	2	2-5 x2	100-600	495
	14	4	4-3½x4	100-1000	650
Camden A-R					
E	3	2	1-4 x4	600	205
E	4½	2	1-4½x4½	550	250
E	5½	2	1-5 x5¼	550	330
E	7½	2	1-5½x6¼	500	500
E	6	2	2-4 x4	600	340
E	9	2	2-4¼x4½	550	380
E	11	2	2-5 x5¼	550	480
E	15	2	2-5½x6¼	500	760
F	25	4	2-7 x8	500	1900
F	50	4	4-7 x8	500	3300
F	75	4	6-7 x8	500	4500
G	6	4	1-5 x5¼	600	575
G	8	4	1-5½x6¼	600	700
G	12	4	2-5 x5¼	600	950
G	16	4	2-5½x6¼	600	1100
Campbell					
500	5	4	1-5 x5½	500	375
600	7	4	1-5½x6½	500	425
800	10	4	2-5 x5½	500	450
900	14	4	2-5½x6½	500	675
1100	15	4	3-5 x5½	500	580
Campbell (Con't'd)					
1200	21	4	3-5½x6½	500	950
1300	20	4	2-6½x5½	500	1475
1400	20	4	4-5 x5½	500	925
1500	28	4	4-5½x6½	500	1225
1600	40	4	4-6½x7½	500	1750
1800	42	4	6-5½x6½	500	1650
1900	60	4	6-6½x7½	500	2275
Carlyle					
Bud-E	5	2	2-3 x3	1200	120
Chesapeake					
L	7	4	1-5 x6	475	350
L	14	4	2-5 x6	475	575
B	5	2	1-5 x5	500	275
BB	10	2	2-5 x5	500	475
	20	4	4-4 x5	575	550
Clay					
M	6	4	1-5½x7	375	....
M	8	4	1-6½x7	375	....
M	10	4	1-7½x7	375	....
M	12	4	2-5½x7	400	....
M	16	4	2-6½-7	400	....
M	20	4	2-7½x7	400	....
M	25	4	4-5½x7	450	....
M	35	4	4-6½x7	450	....
M	50	4	4-7½x7	450	....
M	80-100	4	4-8½x10	350	....
Cleveland					
	6-8	2	1-3½x2½	350-1200	170
Clift					
	4	4	1-3¾x4½	750	250
	8	4	2-3¾x4½	750	350
	7	4	1-5 x6	650	600
	15	4	2-5 x7	600	1200
	20	4	2-5¾x7	600	1450
‡	100	2	4-11x13	300	20000
Climax					
K—Open	40	4	4-5 x6½	800	1200
Ku—encl	40	4	4-5 x6½	800	1250
T—Open	48	4	4-5½x7	800	1500
Tu—encl	48	4	4-5½x7	800	1530
R	....	4	6-5½x7	800-1200	2500
Capitol					
HA-4	32-34	4	4-4¼x5½	1000	675
HA-4	60-65	4	4-4¼x5½	1500 / 2000	675
Cummins					
‡‡TC-1	12½	2	1-5 x7½	500	900
‡‡TC-2	25	2	2-5 x7½	500	1400
‡‡TC-3	37½	2	3-5 x7½	500	1800
‡‡TC-4	50	2	4-5 x7½	500	2100
‡‡TC-6	75	2	6-5 x7½	500	2700
Curtiss					
OX-5	90	4	8-4 x5	1400	390
C-6	160	4	6-4½x6	1750	420
D-12	375	4	12-4½x6	2000	670
Doman					
K	4	4	1-3¾x4½	600	160-225
B	5-7	4	1-4¾x6	400-600	395-575
HM2	12-15	4	2-4¾x6	600-800	750
LM4	15-18	4	4-3⅛x4½	1000 / 1200	395
HM4	25-40	4	4-4¾x6	600-900	1200
TM4	40-50	4	4-6 x7	400-800	1950
Dodge					
‡‡	12½	4	1-6¾x9	425-450	3800
‡‡	25	4	2-6¾x9	425-450	4800
‡‡	37½	4	3-6¾x9	425-450	6200
‡‡	50	4	4-6¾x9	425-450	7400
‡‡	75	4	6-6¾x9	425-450	9700
Dow					
‡‡A	320	4	6-12x18	250	125000
‡‡A	425	4	8-12x18	250	160000
‡‡B	500	4	6-15x22¼	220	185000
‡‡B	666	4	8-15x22¼	220	215000
‡‡C	500	4	6-16x26	175	194000
‡‡C	666	4	8-16x26	175	233000
‡‡F	900	4	6-21 x28¾	140	325000
‡‡H	1500	4	6-24 7/8x37 11/16	125	534000
Elco					
A-4	28-40	4	4-4¾x6	600-1000	1450
A-4R	48-60	4	4-4¾x6	1000 / 1400	1350
A-4	27-42	4	4-4¾x6	600-1000	1450
A-4R	42-44	4	4-4¾x6	1000 / 1200	1350
Elto					
Outboard	3	2	2-2¼x2	1400	50
Enterprise					
	6	4	1-6 x8	420	1240
	8	4	1-6¾x8	400	1360
	10	4	1-7½x8½	375	1490
	12	4	2-6 x8	400	1760

Abbreviations: A—Aluminum base. I—Iron base. ‡‡Diesel. ‡Surface ignition type (Semi-Diesel).

Model	Manufacturers H.P. Rating	Cycle Type	No. of Cylinders, Bore and Stroke	Normal R.P.M.	Weight Complete (Lbs.)
Enterprise (Cont'd)					
.....	16	4	2-6¾x8	400	1910
.....	20	4	2-7½x8½	360	3240
.....	25	4	2-8 x9½	350	3470
.....	30	4	3-6¾x8¼	400	3480
.....	35	4	3-7½x9½	360	5160
.....	45	4	3-8¼x10¼	340	5370
.....	60	4	3-9 x11	320	7230
.....	40	4	4-6¾x8	400	4220
.....	50	4	4-7½x9½	360	5790
.....	65	4	4-8¼x10¼	350	6480
.....	85	4	4-9 x11	320	10200
.....	100	4	6-8¼x10¼	350	9890
.....	125	4	6-9 x11	330	12360
‡‡.....	65	4	3-8½x12	330	10100
‡‡.....	100	4	3-9½x14	320	17750
‡‡.....	125	4	3-10½x14	300	19600
‡‡.....	150	4	3-11½x14	280	22500
‡‡.....	90	4	4-8½x12	330	12700
‡‡.....	135	4	4-9½x14	320	24350
‡‡.....	165	4	4-10½x14	300	25800
‡‡.....	200	4	4-11½x15	280	28200
‡‡.....	140	4	6-8½x12	330	21000
‡‡.....	200	4	6-9½x14	320	35000
‡‡.....	250	4	6-10½x14	300	38800
‡‡.....	300	4	6-11½x15	280	41500
Erd					
S-5.....	5	2	1-2¾x6	900	180
T.....	30	4	4-4 x6	900	750
A.....	42	4	4-4¾x6	900	1100
Evansville					
Boy Scout...	3	4	1-3¾x4	600	150
Regular.....	3¾	4	1-4½x5	500	300
Regular.....	7½	4	2-4½x5	500	400
Regular.....	15	4	4-4½x5	500	625
Regular.....	5	4	1-5 x6	500	400
Regular.....	10	4	2-5 x6	500	540
Regular.....	20	4	4-5 x6	500	900
Regular.....	8	4	1-6 x6¼	500	625
Regular.....	16	4	2-6 x6¼	500	900
Regular.....	24	4	3-6 x6¼	500	1200
Regular.....	32	4	4-6 x6¼	500	1425
Regular.....	11	4	1-7 x9	350	1150
Regular.....	22	4	2-7 x9	350	1800
Regular.....	44	4	4-7 x9	350	2900
Evinrude					
Inboard CC..	2	2	1-2⅝x2½	800	45
Inboard DD.	4-5	2	2-2⅝x2½	1200	67
Inboard DD.	4-5	2	2-2⅝x2½	1200	92
Outboard A..	2	2	1-2⅝x2½	800	72
Outboard B..	2	2	1-2⅝x2½	800	68
Outboard K..	2	2	1-2⅝x2½	800	50
Outboard H..	3½	2	1-3¼x3	650	108
Outboard L..	4	2	2-2⅝x2½	1100	80
Fairbanks					
‡C-O.....	30	2	2-	400	6560
‡C-O.....	45	2	3-	400	7858
‡C-O.....	60	2	4-	400	9033
‡C-O.....	75	2	3-	340	14190
‡C-O.....	100	2	4-	340	16580
‡C-O.....	150	2	3-	250	32059
‡C-O.....	200	2	4-	250	36670
‡C-O.....	300	2	6-	250	52805
Fay & Bowen					
LN-40.....	7-12	4	4-2 3/16x4	800-1400	390
L-41.....	14-23	4	4-3½x4½	800-1400	510
LN-42.....	25-40	4	4-4¼x5½	800-1400	900
LN-43.....	25-40	4	4-4¾x5½	600-1000	950
LNS-43.....	33-50	4	4-4¾x5½	800-1400	750
L-44.....	30-45	4	4-5 x6¼	600-1000	1095
L-64.....	45-85	4	6-5 x6¼	600-1200	1500
Frazer					
.....	2½	2	1-3 1/16x3	200-1000	68
.....	5	2	1-3¾x4¼	200-1000	140
.....	5	2	2-3 1/16x3	200-1000	130
.....	10	2	2-3¾x4¼	200-1000	220
Friabie					
A.....	5	4	1-4¾x5	600	400
C.....	7	4	1-6 x6	650	560
B.....	10	4	2-4¾x5	600	525
D.....	16	4	2-6 x6	600	825
R.....	18	4	3-4¾x5	650	725
N.....	25	4	3-6 x6	600	1175
E.....	30	4	4-4¾x5	800	945
F.....	40	4	4-6 x6	600	1400
K.....	50	4	6-4¾x5	900	985
L.....	75	4	6-6 x6	750	2000
T-2.....	20	4	2-6 x6	600	1300
T-4.....	50	4	4-6 x6	600	2150
T-4 Spec.....	100	4	4-6 x6	1200	2000
Gaeth					
HC.....	14-18	4	2-5¾x8	400-600	1400
HC.....	21-27	4	3-5¾x8	400-600	1800
HC.....	28-36	4	4-5¾x8	400-600	2200
.....	42-54	4	6-5¾x8	400-600	3000
Gaffga					
A.....	3	2	1-4 x4	550	225
.....	4	2	1-4⅝x5	500	325
.....	5	2	1-5 x5½	475	350
.....	6	2	1-5½x6	450	425
.....	8	2	1-6 x6½	400	475
.....	6	2	2-4 x4	550	375
.....	8	2	2-4⅝x5	500	425
Gaffga (Cont'd)					
.....	10	2	2-5 x5½	475	525
.....	12	2	2-5½x6	450	700
.....	16	2	2-6 x6½	400	850
.....	12	4	2-5 x6	600	900
Gierholtt					
Outboard....	2	2	1-2¾x2½	900	50
Outboard....	2	2	1-2¾x2½	900	56
Inboard.....	2	2	1-2¾x2½	900	40
Golden B. & S.					
T.....	18	4	4-3¾x4¼	1000	500
Goshen					
A.....	4	2	1-4 x5	500	135
B.....	8	2	1-5 x6	500	200
E.....	9	2	2-5 x2	500	280
F.....	14	2	2-5 x6	500	410
Gray					
U.....	3-4	2	1-3½x3½	700-900	129
U.....	5½-7	2	1-4¼x4¼	700-900	185
U.....	6-8	2	2-3½x3½	700-900	240
VM.....	10-25	4	4-3½x5	500-1200	650
VE.....	18-35	4	4-4 x6	500-1200	850
Gray-Prior					
X.....	3-5	2	1-4 x4½	500-700	330
X.....	6-8	2	1-4½x4½	500-700	335
X.....	7-10	2	1-5 x5¼	500-700	440
X.....	14-20	2	2-5 x5¼	500-700	620
D-4.....	36	4	4-4½x8	600-750	1950
Hall-Scott					
LM-4.....	125	4	4-5 x7	1700	1100
LM-6.....	200	4	6-5 x7	1700	1300
Harvey					
A.....	5-7	2	1-3¾x4	900	145-172
B.....	10-16	2	2-3¾x4	1100	224-266
C.....	15-24	2	3-3¾x4	1100	296-365
D.....	20-32	2	4-3¾x4	1100	367-463
E.....	30-48	2	6-3¾x4	1100	510-660
Hess					
AC.....	5	4	1-3¾x4	950	225
Hettinger					
18.....	18	4	2-6½x8	400	1600
24.....	24	4	4-5½x6	600	1500
25.....	25	4	2-7½x9	400	2500
36.....	36	4	4-6½x8	400	3000
50.....	50	4	4-7½x9	400	4500
Isotta Fra.					
L-30.....	40	4	4-3 11/16x5 23/64	{1200 / 1400}	1100
L-60.....	70	4	6-4 3/64x5 23/64	{1200 / 1400}	1430
L-250.....	300	4	6-6 13/64x8 31/64	{1300 / 1400}	3090
L-350.....	425	4	8-6 13/64x8 31/64	{1350 / 1450}	4400
L-700.....	800	4	16-6 13/64x8 31/64	{1350 / 1450}	8150
Johnson					
Outboard A..	2	2	2-2 x1½	2100	35
Outboard C..	2	2	2-2 x1½	2100	35
Inboard E...	2	2	2-2 x1½	2100	35
Kahlenberg					
1923.....	2-3	2	1-3½x3½	600	125
1923.....	3-4	2	1-4 x4	550	160
1923.....	4-6	2	1-5 x5	400	400
1923.....	6-8	2	1-5½x6	400	550
1923.....	9-12	2	1-6½x7	350	750
1923.....	12-15	2	1-7 x8	325	900
1923.....	6-8	2	2-4 x4	550	350
1923.....	8-12	2	2-5 x5	400	650
1923.....	12-16	2	2-5½x6	380	950
1923.....	18-24	2	2-6½x7	350	1300
1923.....	24-30	2	2-7 x8	325	1800
1923.....	30-36	2	2-7¾x8	325	2000
1923.....	50-55	2	2-9 x10	300	3400
1923.....	27-36	2	3-6½x7	325	1700
1923.....	36-45	2	3-7 x8	325	2600
1923.....	45-54	2	3-7¾x8	325	2800
1923.....	75-85	2	3-9 x10	300	5000
‡1923.....	20-24	2	2-	425	6500
‡1923.....	30-36	2	2-	375	7940
‡1923.....	45-54	2	3-	375	9875
‡1923.....	60-70	2	4-	375	12020
‡1923.....	50-60	2	2-	340	9750
‡1923.....	75-90	2	3-	340	12580
‡1923.....	100-120	2	4-	340	15835
‡1923.....	135-150	2	3-	325	20295
‡1923.....	180-200	2	4-	325	24650
Kermath					
3.....	3	4	1-3¾x4	600	125
4.....	4-5	4	2-3½x4	800	300
6.....	6-8	4	2-3¾x4	800	325
12.....	10-12	4	4-3½x4	600-1200	470
16.....	16-18	4	4-3¾x4	600-1200	500
20.....	20-25	4	4-4 x4	600-1200	535
35.....	20-35	4	4-4⅜x5½	600-1000	900
40.....	24-40	4	4-4½x6¼	500-1200	1350
50.....	50-55	4	4-4⅜x5½	{1500 / 1600}	650
King					
1923.....	3	4	1-3½x5	650	125
1923.....	8	4	2-3½x5	650	150
Knox-Spr.					
350.....	40	4	4-5 x5½	800	1100
940.....	20	4	4-3½x5	900	780
Koban					
Outboard H..	3	2	2-2⅝x2⅜	800-900	80
Outboard H..	3	2	2-2⅝x2⅜	800-900	80
L. & D......	3	2	1-3½x4	800	90
Lathrop					
1923.....	3	2	1-4 x4	500	150
1923.....	4	2	1-4½x5	500	200
1923.....	5	2	1-5⅜x5	500	300
1923.....	6	2	1-5½x5	500	325
1923.....	6	2	1-5¼x6½	400	500
1923.....	7	2	1-6 x6½	375	575
1923.....	8	2	1-6½x6½	375	600
1923.....	10	2	1-7 x7½	300	850
1923.....	12	2	1-7½x7½	275	900
1923.....	8	2	2-4½x5	550	400
1923.....	10	2	2-5 3/16x5	500	475
1923.....	12	2	2-5½x5	500	500
1923.....	12	2	2-5¼x6½	400	850
1923.....	14	2	2-6 x6½	400	900
1923.....	16	2	2-6½x6½	400	950
1923.....	20	2	2-7 x7½	300	1200
1923.....	24	2	2-7½x7½	275	1300
1923.....	36	2	3-7½x7½	275	2500
1923.....	12	4	2-5 3/16x6½	500	900
1923.....	16	4	2-5½x6½	500	900
1923.....	21	4	3-5 3/16x6½	500	1200
1923.....	30	4	3-5½x6½	700	1200
1923.....	28	4	4-5 3/16x6½	500	1500
1923.....	40	4	4-5½x6½	700	1500
1923.....	60	4	6-5½x6½	700	2000
1923.....	16	4	2-5½x8	400	1500
1923.....	24	4	3-5½x8	400	2000
1923.....	32	4	4-5½x8	400	2400
Le Roi					
2C.....	15	4	4-3 1/16x4½	1000	450
Loane					
Crabber.....	3½	4	1-3¾x5	750	250
Fisher.....	6	4	1-5 x6	600	650
Fisher.....	12	4	2-5 x6	600	1050
Fisher.....	12-16	4	4-3¾x4	1200	450
Fisher.....	18	4	3-5 x6	600	1350
Fisher.....	24	4	4-5 x6	600	1500
Lockwood					
Outboard....	2	2	1-2⅝x2½	700	65
24.....	2½	2	1-3¼x3½	750	....
24.....	4	2	1-4 x4	750	....
68.....	6	2	2-3½x3½	800	....
68.....	8	2	2-4 x4	800	....
44.....	14	4	4-3¾x4½	800	600
M'Intosh					
‡‡M6B25....	390	4	6-	265	....
‡‡M6B33....	640	4	6-	190	....
‡‡M6C44....	1200	4	6-	140	....
‡‡M6C46....	1400	4	6-	142	....
‡‡M6C56....	2250	4	6-	115	....
‡‡M8C56....	3000	4	8-	115	....
Mecco					
A.....	4	4	1-4¼x5	600	220
B.....	5	4	1-5 x6	500	375
AA.....	9	4	2-4¼x5	600	375
4A.....	16	4	4-4¼x5	600	500
C2.....	12	4	2-5½x6½	500	550
C3.....	18	4	3-5½x6½	500	775
Mianus					
A.....	3	2	1-4 x4	550	175
A.....	5	2	1-4⅝x5	500	280
A.....	7½	2	1-5 3/16x6	450	415
A.....	10	2	1-6½x7	375	675
A-2.....	6	2	2-4 x4	550	300
A-2.....	10	2	2-4⅝x5	500	500
A-2.....	15	2	2-5 3/16x6	450	750
F-2.....	16	4	2-6 x8	400	1600
F-3.....	24	4	3-6 x8	400	2200
F-4.....	32	4	4-6 x8	400	2750
‡‡7½-10....	7½-10	2	1-5 3/16x6⅝	500-550	1000
‡‡15-20.....	15-20	2	2-5 3/16x6⅝	500-550	1700
‡‡30-40.....	30-40	2	2-7 1/16x9⅞	360-400	5100
‡‡45-60.....	45-60	2	3-7 1/16x9⅞	360-400	6500
‡‡60-80.....	60-80	2	4-7 1/16x9⅞	360-400	8200
‡‡100-120...	100-120	2	6-7 1/16x9⅞	360-400	1300
Michigan					
XX.....	4	4	1-3¾x4½	750	115-125
Mietz					
‡.....	15	2	2-6 x6½	500	1995
‡.....	22	2	3-6 x6½	500	2520
‡.....	40	2	2-9 x10	400	6300
‡.....	50	2	2-10x12	340	11000
‡.....	60	2	3-9 x10	400	7500
‡.....	75	2	3-10x12	340	14000
‡.....	100	2	4-10x12	340	18000
‡.....	150	2	3-14x18½	240	45000
‡.....	200	2	4-14x18½	240	42000
‡.....	350	2	4-16x21	210	65000

‡‡Diesel. ‡Surface ignition type (Semi-Diesel).

Model	Manufacturers H.P. Rating	Cycle Type	No. of Cylinders Bore and Stroke	Normal R.P.M.	Weight Complete (Lbs.)
Miller					
F-1	4	4	1-4½x5	600	400
I-1	6	4	1-5¼x6	500	500
F-2	10	4	2-4½x6	600	600
I-2	14	4	2-5¼x6½	500	800
E-4	12-20	4	4-3½x5	6-900	650
F-4	18-24	4	4-4½x6	5-800	1200
I-4	24-30	4	4-5¼x6	5-700	1500
R-4	28-35	4	4-5¼x7½	4-550	1900
S-4	40-50	4	4-6 x9	350-450	2700
Outboard Pl.	2½	2	1-2⅝x2½	850	70
Missouri					
.....	8	4	2-4⅜x5	500	....
.....	12	4	2-5 x6	500	....
.....	18	4	4-4⅜x5	500	....
.....	24	4	4-5 x6	500	....
‡.....	7	2	1-5 x6	500	....
‡.....	14	2	2-5 x6	500	....
‡.....	22	2	3-5 x6	500	....
‡.....	30	2	4-5 x6	500	....
Mohawk					
B20	3½	2	1-3½x3¾	900	145
B21	7	2	1-4½x4½	900	225
B22	7	2	2-3½x3¾	900	215
B23	14-16	2	2-4½x3¾	900	395
S24	5-6	2	1-4⅝x3¾	1200	155
S25	10-12	2	2-4⅝x3¾	1200	220
S26	15-21	2	3-4⅝x3¾	1200	290
S27	21-30	2	3-4½x4½	1200	495
M28	6	2	1-4½x4½	700	275
M29	12	2	2-4½x4½	700	400
M30	18	2	3-4½x4½	700	510
H31	5	2	1-4½x4½	500	310
H32	10	2	2-4½x4½	500	510
K33	6	2	1-4½x4½	700	280
K34	12	2	2-4½x4½	700	410
K35	25	2	4-4½x4½	700	775
Monarch					
.....	5-45	4	6-5 x6	525-575	....
.....	7-60	4	6-6 x7	525-575	....
.....	72	4	4-8 x9	375-500	....
.....	40-168	4	6-10x10	325-450	....
Motorgo					
.....	2½	2	1-3¼x3¼	750	97
.....	4	2	1-4 x4	750	135
1923	5	4	1-3⅜x4	1000	160
.....	6	2	2-3½x3½	750	154
.....	8	2	2-4 x4	750	222
Outboard	2	2	1-2⅝x2½	850	62
Murray & T					
E-2	18-20	4	2-6½x8	425	1867
E-2	25-35	4	3-6½x8	450	2216
E-4	40-50	4	4-6½x8	450	2916
F-6	60-75	4	6-6½x8	500	3560
F-4	60-70	4	4-7½x10	375-425	4667
F-6	90-110	4	6-7½x10	400-450	6990
K-6	300	4	6-6¼x7¾	1650	2100
J-6	400	4	6-7¼x9	1400	4000
N. & S.					
Cub	4	4	1-3¾x5	800	350
.....	20	4	2-7 x9	350	3200
.....	20	4	2-7 x9	350	2800
.....	30	4	2-8x10	325	3500
.....	40	4	3-8 x9	325	4600
.....	80	4	3-10½x12	320	8000
N. J. M.					
7	10-15	4	4-3¾x4	900	480
8	15-20	4	4-3¾x4	1500	525
Nisco					
‡‡.....	120	4	4-9x12½	350	17800
‡‡.....	180	4	6-9x12½	350	23000
‡‡.....	240	4	8-9x12½	350	30700
‡‡.....	240	4	4-13x18	240	49800
‡‡.....	360	4	6-13x18	240	64000
‡‡.....	480	4	8-18x8	240	84300
‡‡.....	600	4	6-16½x24	205	120000
New Parker					
Simplex	2	2	1-3 x3	900	65
Duplex	4	2	2-3 x3	900	110
Heavy Duty	4	2	1-4 x4	700	125
New-Way					
CH	5	4	1-4½x4½	800	....
N.Y.Y.L.&E.					
1923	15-20	4	2-6½x8½	400	2000
1923	40-50	4	4-6½x8½	400	3400
1923	65-75	4	6-6½x8½	400	4500
Niagara					
E2	12	4	2-4¾x5½	900	625
E4	25-35	4	4-4¾x5½	1000	925
D4	40-80	4	4-6¼x7	1000	1650
D6	60-120	4	6-6¼x7	1000	2350
D8	80-160	4	8-6¼x7	1000	3250
Spec	9-15	4	4-2⅝x4	1000	325
Ontario					
.....	2	2	1-2⅝x3	1650	70
.....	3	2	1-3½x3½	900	125
.....	6	2	2-3½x3½	900	190
.....	9	2	3-3½x3½	900	270
Ontario (Con t'd)					
.....	12	2	4-3½x3½	900	350
.....	7	2	1-5 x5	540	300
.....	14	2	2-5 x5	600	500
.....	21	2	3-5 x5	600	700
.....	28	2	4-5 x5	600	900
Palmer					
YT	2	4	1-3 x3½	....	95
NL1	3½	4	1-4 x4½	....	350
NL2	7	4	2-4½x4½	4-600	350
RW1	5½-6½	4	1-5¾x6	4-600	425
TM	10	4	4-2¾x3¼	{1000}	260
VH	14	4	4-3 x4½	{1500} {1000} {1200}	700
NR1	5-6	4	1-5 x6	4-600	400
NR2	10-12	4	2-5 x6	4-600	750
NR3	15-18	4	3-5 x6	4-600	1000
NR4	20-24	4	4-5 x6	4-600	1250
F2	16-18	4	2-4 x6⅜	350-400	1600
F3	24-26	4	3-6⅜x8	350-400	2000
F4	32-35	4	4-6⅜x8	350-400	2400
F6	50-60	4	6-6⅜x8	350-400	3800
NK2	20-25	4	2-7½x10	3-400	3000
NK3	30-35	4	3-7½x10	3-400	3500
NK4	45-50	4	4-7½x10	3-400	4200
NK6	75-80	4	6-7½x10	3-400	5600
C	4	2	1-4½x4½	450	240
D	6	2	1-5 x6	450	350
Q1	2½	2	1-3¾x3½	700	125
Q2	5	2	1-3¾x3½	700	180
P1	4	2	1-4½x4½	650	210
P2	8-10	2	2-4½x4½	650	325
Peerless					
.....	5-6	4	1-5 x6	600	450
.....	10-12	4	2-5 x6	600	600
.....	16-20	4	4-4 x6	1000	750
.....	25-35	4	4-5 x6	1000	850
.....	20-24	4	2-5¾x7	650	1200
.....	40-50	4	4-5¾x7	650	1700
.....	125	4	4-5 x7	1650	800
Pierce-Bou.					
.....	4-6	2	1-4 x4	1000	125
.....	12-15	2	2-4 x4	1200	170
.....	18-25	2	3-4 x4	1500	235
.....	30-40	2	4-4 x4	1800	300
.....	40-60	2	4-4 x4	2000	395
Quale					
‡‡4-M-28	25-35	4	4-4¾x6½	650	2150
‡‡4-S-30	25-35	4	4-4¾x6½	600	1650
Ray					
A	4	4	1-3¾x4	900	150
Roberts					
H	8	4	2-3¾x4	1000	163
R	16	4	4-3¾x4	1000	240
Regal					
Y	2	4	1-3¼x3½	800	130
FA	4	4	1-4 x4	800	290
UA	5	4	1-4½x5½	650	385
EA	7	4	1-5¼x6½	500	745
JA	9	4	1-6½x7	400	1315
FB	8	4	2-4x4½	800	540
UB	10	4	2-4½x5½	600	730
EB	14	4	2-5¼x6½	500	1040
JB	18	4	2-6½x7	400	1750
FC	16	4	4-4 x4½	800	730
UC	20	4	4-4½x5½	700	1035
JD	27	4	3-6½x7	400	2500
EC	30	4	4-5¼x6½	600	1600
CB	32	4	4-4½x5½	1000	910
JC	36	4	4-6½x7	400	2800
SC	50	4	4-7½x9	400	4600
SH	100	4	8-7½x9	350	8600
Remington					
‡Heavy Duty	4	2	1-3⅞x5	700	550
‡Heavy Duty	12	2	1-7 x8	400	1500
‡Heavy Duty	17	2	1-8¾x8	400	1600
‡Heavy Duty	24	2	2-7 x8	400	2100
‡Heavy Duty	35	2	2-8¾x8	400	3130
‡Heavy Duty	55	2	3-8¾x8	400	4500
‡Heavy Duty	75	2	4-8¾x8	400	5430
‡Light Duty.	8	2	1-5½x6	500	800
‡Light Duty.	10	2	1-6¾x6	500	825
‡Light Duty.	16	2	2-5½x6	500	1050
‡Light Duty.	22	2	2-6¾x6	500	1100
‡Light Duty.	34	2	3-6¾x6	500	1850
Scripps					
E-4	15-25	4	4-3¾x5	700-1000	590
E-4	30-42	4	4-3¾x5	{1200} {1600}	590
D-2	10-12	4	2-4¼x6	500-700	525
D-2	15-18	4	2-4¼x6	800-1000	525
E-4	30-45	4	4-4½x6	700-1000	975
E-4	45-70	4	4-4½x6	{1000} {1600}	900
E-6	40-50	4	6-4½x6	600-950	1400
E-6	65-100	4	6-4½x6	{1000 {1600}	1290
Smith					
V-12-cyl.	400-500	4	12-5x7	1700	1250
Speedway					
K	22-28	4	4-4 x4½	{1000} {1400}	560
Z	35-44	4	4-4½x5½	{1000} {1200}	950
N	50-72	4	6-4½x5½	{1000} {1200}	1200
M	48-75	4	4-5¾x7	600-1000	1850
M	75-130	4	6-5¾x7	600-1000	2400
M	130-150	4	6-5¾x7	{1000} {1200}	1900
M	150-185	4	6-5¾x7	{1000} {1200}	2000
M	100-175	4	8-5¾x7	600-1000	2900
M	175-200	4	8-5¾x7	{1000} {1200}	2350
L	30-115	4	6-6¾x8½	400-600	5000
R	250-300	4	6-7 x8½	{1000} {1300}	4000
H	200-250	4	6-11x12	350-450	11400
Spinaway					
Outboard	2	2	1-2⅝x2⅝	900	55
Outboard	2½	2	2-2 x2	....	....
Stearns					
MGU	40	4	4-4¼x6	1100	1000
MHU	50	4	4-4½x6	1100	1000
MHR	60	4	4-4½x6	1600	950
MAU	55	4	4-4¾x6½	1050	1600
MDU	70	4	4-5⅛x6½	1050	1600
MDR	100	4	4-5⅛x6½	1600	1300
MEU	90	4	4-5⅛x6½	1100	1600
MER	150	4	4-5½x6½	1850	1300
St. Lawrence					
1922	15-16	4	4-4 x3¾	1000	395
Standard Co.					
C	5	4	1-5¼x6½	400	1555
A²	8	4	2-4¾x6	440	1800
B²	10	4	2-5½x6	400	2190
E	12	4	2-6 x7	380	2750
F	16	4	2-6½x7½	360	2930
M	20	4	2-7¼x9	320	4635
H	25	4	3-6¼x7	450	3710
K	30	4	3-6½x8	360	5045
O	44	4	3-8 x10	320	6820
P	50	4	3-8¾x10½	300	9215
O⁴	65	4	4-8x10	360	7120
R	80	4	3-9¾x12	280	12310
P⁴	85	4	4-8¾x10½	350	13150
S	110	4	3-11¾x15	250	20235
R⁴	120	4	4-9¾x12	320	19500
S⁴	175	4	4-11¾x15	275	28500
S⁶	275	4	6-11¾x15	300	32700
‡L1M	7½	2	1-6 x8	420	3035
‡Q1M	12½	2	1-8 x10	325	4075
‡L2M	15	2	2-6 x8	420	4842
‡T1M	17½	2	1-9½x11	325	5110
‡W1M	25	2	1-10½x12	300	5850
‡Q2M	25	2	2-8 x10	325	6320
‡L3M	25	2	3-6 x8	420	6970
‡T2M	35	2	2-9½x11	325	7280
‡L4M	35	2	4-6 x8	420	9150
‡X1M	37½	2	1-12¼x13½	275	8470
‡Q3M	40	2	3-8 x10	325	8939
‡Y1M	50	2	1-14¼x16½	250	11570
‡W2M	50	2	2-10½x12	300	8490
‡T3M	55	2	3-9½x11	325	10736
‡Q4M	55	2	4-8 x10	325	10550
‡L6M	55	2	6-6 x8	420	13175
‡X2M	75	2	2-12¼x13½	275	12710
‡W3M	75	2	3-10½x12	300	13658
‡T4M	75	2	4-9½x11	325	12968
‡Q6M	75	2	6-8 x10	325	16830
‡Y2M	100	2	2-14¼x16½	250	18700
‡W4M	100	2	4-10½x12	300	18110
‡X3M	110	2	3-12¼x13½	275	19120
‡T6M	115	2	6-9½x11	325	19050
‡Y3M	150	2	3-14¼x16½	250	28700
‡X4M	150	2	4-12¼x13½	275	25310
‡W6M	150	2	6-10½x12	300	26800
‡Y4M	200	2	4-14¼x16½	250	37660
‡X6M	225	2	6-12¼x13½	275	37440
‡Y6M	300	2	6-14¼x16½	250	56000
StandardN.J.					
.....	10-12	4	2-5 x6½	400	850
.....	16-18	4	2-6 x8	350	1200
.....	20-24	4	4-5 x6½	400	1600
.....	24-27	4	3-6 x8	350	1800
.....	32-37	4	4-6 x8	350	2800
.....	50-54	4	6-6 x8	350	3200
.....	50-60	4	4-6½x8	600	3300
.....	65-75	4	4-8 x10	350	5300
.....	70-90	4	6-6½x8	600	4200
.....	90-100	4	6-8 x10	350	8000
.....	125-150	4	6-8½x11	350	5800
.....	220	4	6-10x11	460	6300
.....	300	4	6-12x14	350	9500
.....	500	4	6-12½x13	350	18000
2KW	4	4	1-4½x4½	750	900
4½K.W.	8	4	2-4½x5½	700	1300
Sterling					
Neptune	12-15	4	2-5½x7	400-500	1150
Dolphin	120-160	4	4-5¾x6¾	{1250} {1650}	1600
Dolphin	180-234	4	6-5¾x6¾	{1250} {1650}	2000
Dolphin	242-316	4	8-5¾x6¾	{1250} {1650}	2750

‡‡Diesel. ‡Surface ignition type (Semi-Diesel).

Model	Manufacturers H.P. Rating	Cycle Type	No. of Cylinders Bore and Stroke	Normal R.P.M.	Weight Complete (Lbs.)
Sterling (Cont'd)					
Trident	65-98	4	4-5¾x6¾	800-1200	1700
Trident	97-145	4	6-5¾x6¾	800-1200	2300
Trident	130-195	4	8-5¾x6¾	800-1200	3150
Trident	30-60	4	4-5¾x6¾	400-800	1875
Trident	45-94	4	6-5¾x6¾	400-800	2550
Trident	60-126	4	8-5¾x6¾	400-800	3150
Dolphin	185	4	4-5¾x6¾	1950	1550
Dolphin	275	4	6-5¾x6¾	1950	1965
Dolphin	365	4	8-5¾x6¾	1950	2750
Sea-Gull	150	4	6-4½x6	(1200) (1800)	1375
Viking	200-300	4	6-7 x8½	900-1200	5600
Sumner					
‡	100	2	4-10½x12	300	13000
‡	150	2	4-12x14	275	19000
‡	200	2	4-13½x16	250	26000
‡	250	2	4-14x18	230	32000
‡	300	2	4-15x20	220	38000
‡	400	2	4-16½x22	200	50000
‡	600	2	4-16½x22	200	75000
Stork					
	3	2	1-3½x3½	700	120
	4	2	1-4 x4	700	180
	6	2	1-4½x4½	700	225
	8	2	1-5 x5	700	370
	6	2	2-3½x3½	700	200
	8	2	2-4 x4	700	400
	12	2	2-4½x4½	700	450
	16	2	2-5 x5	700	555
	12	2	3-4 x4	700	550
	18	2	3-4½x4½	700	600
	8	4	2-4½x5½	600	700
	10	4	2-5 x6	500	900
	12	4	2-5½x6½	500	900
	16	4	2-6 x7	400	1500
	20	4	2-6⅜x8	400	2000
	25	4	2-7½x9	400	2500
	16	4	4-4½x5½	700	1200
	20	4	4-5 x6	500	1500
	24	4	4-6½x5½	500	1500
	32	4	4-6 x7	400	3000
	40	4	4-6¾x8	400	3500
	50	4	4-7½x9	400	4500
	30	4	6-4½x5½	700	1400
	50	4	6-5½x6½	700	1800
	75	4	6-7½x9	400	6000
Sturtevant					
E-4	75	4	4-4½x6	1600	700
Thorobred					
D	10-14	4	4-2¾x4	1000	340
A	14-20	4	4-3½x4½	800	670
AA	18-24	4	4-3¾x4	800	680
F	28-36	4	4-4⅞x5	1000	780
B	32-40	4	4-4½x5	1000	820
Union					
Marine	7	4	1-5⅞x6¾	450	....
Marine	14	4	2-6⅞x6¾	500	....
Marine	21	4	3-5⅞x6¾	500	....
Marine	28	4	4-5⅞x6¾	500	....
Marine	35	4	3-7½x9	360	4825
Marine	45	4	3-8¼x10½	330	6450
Marine	60	4	3-9 x11	320	7400
Marine	80	4	3-10x12	310	10700
Marine	85	4	4-9x11	330	10140
Marine	110	4	3-12x15	280	17600
Marine	110	4	4-10x12	330	12350
Marine	150	4	4-12x15	290	22750
Marine	225	4	4-14½x18	225	36400
Marine	250	4	4-15¼x20	200	49785
Marine	300	4	4-16x21	210	55700
Marine	125	4	6-9 x11	320	14400
Marine	225	4	6-12x15	300	30600
Marine	325	4	6-14½x18	225	50400
Marine	375	4	6-15¼x20	200	69100
Unit					
22-1	10-12½	2	1-3¾x5	(1000) (1500)	110
22-2	20-25	2	2-3¾x5	(1000) (1500)	160
22-3	30-37½	2	3-3¾x5	(1000) (1500)	300
Unit (Cont'd)					
22-4	40-50	2	4-3¾x5	(1000) (1500)	400
22-6	60-75	2	6-3¾x5	(1000) (1500)	600
22-8	80-100	2	8-3¾x5	(1000) (1500)	800
22-12	120-150	2	12-3¾x5	(1000) (1500)	1200
Universal					
C	9-12	4	4-2⅝x4	1200	325
Van Blerck					
N-101-SS	11-24	4	2-5½x6	400-800	1000
N-102-SS	11-24	4	2-5½x6	400-800	1000
N-103-SS	22-57	4	4-5½x6	400-1000	1497
N-104-SS	22-57	4	4-5½x6	400-1000	1497
N-105-SS	33-86	4	6-5½x6	400-1000	1890
N-106-SS	33-86	4	6-5½x6	400-1000	1890
N-107-SS	44-95	4	8-5½x6	400-1000	2287
N-108-SS	44-95	4	8-5½x6	400-1000	2287
N-120-MS	65-78	4	4-5½x6	(1000) (1500)	1497
N-121-MS	65-78	4	4-5½x6	(1000) (1500)	1497
N-122-MS	97-120	4	6-5½x6	(1000) (1500)	1890
N-123-MS	97-120	4	6-5½x6	(1000) (1500)	1890
N-124-MS	128-157	4	8-5½x6	(1000) (1500)	2287
N-125-MS	128-157	4	8-5½x6	(1000) (1500)	2287
Venn-Severin					
‡EM	9-10	2	1-6 x8	425	950
‡FM	15-20	2	1-8 x10	325	1875
‡DM	20-25	2	1-9½x11	350	2150
‡FMX	30-40	2	2-8 x10	350	3380
‡DMX	40-45	2	2-8½x11	350	3950
‡HMX	50-60	2	2-10½x12	325	4900
‡DMY	60-70	2	3-9½x11	350	4800
‡HMY	75-90	2	3-10½x12	325	5800
‡IMX	80-100	2	2-12¼x13½	275	97000
‡IMY	125-150	2	3-12¼x13½	275	14500
‡IMZ	175-200	2	4-12¼x13½	275	18700
‡KMZ	250-275	2	4-14¼x16½	250	26800
Vulcan					
	4	4	1-4⅝x6	500	300
	5	4	1-5¼x7	500	400
	7½	4	1-6½x7¼	450	600
	11	4	1-7½x8½	400	900
	8	4	2-4⅝x6	550	650
	10	4	2-5¼x7	500	900
	15	4	2-6½x7¼	475	1300
	22	4	2-7½x8½	425	2200
	25	4	3-6½x7¼	475	1700
	35	4	3-7½x8½	425	2800
	56	4	3-8¾x10½	400	4200
	16	4	4-4⅝x6	550	900
	20	4	4-5¼x7	500	1200
	30	4	4-6½x7¼	475	2050
	45	4	4-7½x8½	425	3400
	75	4	4-8¾x10½	375	5500
	40	4	6-5¼x7	550	1750
	70	4	6-7½x8½	425	4500
Waterman					
K-1	2½-3	2	1-2¾x3	700	36
K-2	5-6	2	2-2¾x3	750	60
A-4	4-5	2	1-4 x4	650	110
C-21	3	2	1-2¾x3	1100	85
C-21	3	2	1-2¾x3	1100	80
Werkspoor					
‡	9	2	1-6¾x6⅞	500	1325
‡	16	2	1-8¼x9⅞	400	2800
‡	24	2	1-9¾x11⅞	375	3740
‡	38	2	2-8¼x10⅞	375	5450
‡	55	2	2-10½x11⅞	375	7800
‡	70	2	2-11⅞x14 ¾	325	9250
‡	120	2	2-14¾x15½	300	17500
‡	140	2	4-11⅞x14 ¾	325	16000
‡	180	2	2-16½x18⅝	250	25500
‡	240	2	4-14¾x15¾	300	32000
‡	360	2	4-16½x18⅝	250	46000
Werkspoor (Cont'd)					
‡	500	2	6-16½x18⅝	225	70000
‡‡	110	4	3-10¼x14¾	280	22000
‡‡	150	4	4-10¼x14¾	280	27000
‡‡	550	4	6-16½x29½	165	160000
‡‡	850	4	6-20⅛x35⅞	135	240000
‡‡	150	4	3-11⅛x19⅛	225	30000
‡‡	200	4	4-11⅛x19⅛	....	40000
Western					
‡‡	75	4	3-9¼x14	325	21000
‡‡	100	4	4-9¼x14	325	26000
Winona					
	5	2	1-4½x4½	700	....
	10	2	2-4½x4½	700	....
	15	2	3-4½x4½	700	....
	20	2	4-4½x4½	700	....
Winton					
W6	80	4	6-4 x6½	450	5400
W28	150	4	6-6½x9	900	4000
W29	200	4	8-6½x9	900	5000
W5	125	4	6-8 x11	450	10000
11	200	4	6-9½x14	400	19000
‡‡W40	450	4	8-12⅛x18	225	90000
‡‡W24A	350	4	6-12⅛x18	225	64000
‡‡W35	200	4	6-11x14	250	44000
‡‡54A	135	4	6-7½x11	450	23000
‡‡W43	90	4	4-7½x11	450	19000
‡‡67	65	4	3-7½x11	450	15200
‡‡95	37½	4	4-5½x7	550	7000
Wisconsin					
Inboard A	5	2	1-4 x4	700	160
Inboard B	7	2	1-4½x4½	700	190
Inboard C	10	2	2-4 x4	750	240
Inboard D	15	2	2-4½x4½	750	300
Inboard E	20	2	3-4 x4	850	340
Inboard F	27	2	3-4½x4½	900	400
Outboard JL	2	2	1-2⅝x2½	750	55
OutboardKM	2	2	1-2⅝x2½	750	55
Outboard N	3½	2	1-3¼x3¼	750	100
Wisconsin					
EM	24	2	4-4 x5	1000	625
AM	40	2	4-4¾x5½	1000	800
JM	48	2	4-5⅛x5½	1000	800
MM	62	2	4-5¾x7	800	1290
GM	60	2	6-4¾x5½	1000	1360
PM	90	2	6-5¾x7	800	1585
Wolverine					
Special	5	4	1-5½x6	500	600
Special	14	4	2-6½x7	400-425	1545
Special	22	4	3-6½x7	400-425	2285
Special	32	4	3-7½x9	350-375	3914
Special	42	4	3-8½x9	350-375	4130
Special	60	4	3-9¼x12	300-325	7000
Special	80	4	3-11x12	300-325	7516
Special	110	4	3-12½x14	300-325	12400
Special	160	4	6-11x12	330	13600
Special	200	4	6-11x15	330	17110
Heavy Duty	35-40	4	4-5½x7	700-800	1800
‡‡	46	4	2-8¼x11	350	8050
‡‡	70	4	3-8¼x11	350	9825
‡‡	95	4	4-8¼x11	350	11600
Worthington					
‡‡	120	2	4-10¼x10½	375	22000
‡‡	180	2	6-10¼x10½	375	32000
‡‡	200	2	4-12½x13½	325	37500
‡‡	300	2	6-12½x13½	325	54500
‡‡	300	2	4-15½x16	275	57000
‡‡	450	2	6-15½x16	275	82500
Wright					
S	10	4	1-6 x7½	450	1280
S	20	4	2-6 x7½	450	1810
SS	30	4	3-6x7½	450	2416
S	40	4	4-6 x7½	450	3142
S	60	4	6-6 x7½	450	4630
P	15	4	1-7½x9	350	1780
P	30	4	2-7½x9	350	3018
P	45	4	3-7½x9	350	4068
P	60	4	4-7½x9	350	5085
P	90	4	6-7½x9	350	7000

‡‡Diesel. ‡Surface ignition type (Semi-Diesel).

Motor Boats in France Number 1,095

ALTHOUGH possessing a long coast line and a large number of navigable rivers, the use of the motor boat in France is very slight, the official figures showing that only 1095 craft paid taxes for the year 1921. The greatest number of boats is to be found in the Bouches du Rhone departement, which comprises the port of Marseilles. The Gironde departement, which includes the town of Bordeaux with more than 260,000 inhabitants, only possesses 92 motor boats. In the north the development is still less, for all the regions having a sea front on the English Channel, from Dunkirk to Cherbourg only total 49 motor boats.

Taxation on motor boats is based on the power of the engine, the formula being the same as that for automobiles. This tax has tended to restrict the development of the motor boat.

British Marine Engine Specifications

MAKE	Mfrs. H.P. Rating	Cycle Type	Number of Cylinders	Bore and Stroke (Ins.)	Fuel	Normal R.P.M.	Impulse Starter Fitted?	Oiling System	Valve Arrangement	Governor Fitted?	PUMPS		Price (Engine Only) £	Weight (Engine Only) (Lbs.)
											Water. Type	Oil. Type		
Ailsa Craig	12	4	4*	2¾x4	Gas. or Ker.	950	Yes	Pressure	I Head	No	Plunger	Gear	£100†	290
Ailsa Craig	4½	4	1	3½x4½	Gas. or Ker.	900	Yes	Pressure	L Head	Yes	Plunger	Gear	65	308
Ailsa Craig	9	4	2	3½x4½	Gas. or Ker.	900	Yes	Pressure	L Head	Yes	Plunger	Gear	108	420
Ailsa Craig	15	4	4	3½x4½	Gas. or Ker.	900	Yes	Pressure	L Head	Yes	Plunger	Gear	208	812
Ailsa Craig	8½	4	1	4⅝x6	Gas. or Ker.	700	Yes	Pressure	L Head	Yes	Piston	Plunger	125	700
Ailsa Craig	26	4	3	4⅝x6	Gas. or Ker.	700	Yes	Pressure	L Head	Yes	Gear	Gear	273	1176
Ailsa Craig	17	4	2	5 x5½	Gas. or Ker.	700	Yes	Pressure	L Head	Yes	Piston	Gear	192	924
Ailsa Craig	31	4	4	5 x5½	Gas. or Ker.	700	Yes	Pressreu	L Head	Yes	Piston	Gear	308	1372
Ailsa Craig	50	4	6	5 x5½	Gas. or Ker.	700	Yes	Pressure	L Head	Yes	Piston	Gear	464	1904
Aster	7	4	1	4¾x5⅞	Gas. or Ker.	800	No	Pressure	L Head	Yes	Gear	Gear	128†	590
Aster	7	4	4	2⅜x3⅜	Gas. or Ker.	1200	No	Sir. Spl	L Head	Yes	Gear	Gear	125†	500
Aster	14	4	2	4⅛x5½	Gas. or Ker.	900	No	Pressure	L Head	Yes	Gear	Gear	181†	750
Aster	16	4	2	4¾x5⅞	Gas. or Ker.	800	No	Pressure	L Head	Yes	Gear	Gear	205†	820
Aster	18	4	4	3¼x4¾	Gas. or Ker.	900	No	Pressure	L Head	Yes	Gear	Gear	233†	890
Aster	25	4	4	4⅛x5½	Gas. or Ker.	900	No	Pressure	L Head	Yes	Gear	Gear	300†	1344
Aster	40	4	4	5⅛x5⅞	Gas. or Ker.	900	No	Pressure	L Head	Yes	Gear	Gear	382†	1680
Aster	60	4	6	5⅛x5⅞	Gas. or Ker.	900	No	Pressure	L Head	Yes	Gear	Gear	669†	2300
Aster	90	4	8	5⅛x5⅞	Gas. or Ker.	900	No	Pressure	L Head	Yes	Gear	Gear	845†	2910
Atlantic	7	4	2	3½x4¾	Kerosene	1000	Yes	Drip and Spl	L Head	Yes	Piston	None	70†	.....
Atlantic	14	4	4	3½x4¾	Kerosene	1000	Yes	Drip and Spl	L Head	Yes	Piston	None	151†	.....
Atlantic	5	4	1	4 x5	Kerosene	1000	Yes	Drip and Spl	L Head	Yes	Piston	None	59†	.....
Atlantic	10	4	2	4 x5	Kerosene	1000	Yes	Drip and Spl	L Head	Yes	Piston	None	103†	1071
Atlantic	20	4	4	4 x5	Kerosene	1000	Yes	Drip and Spl	L Head	Yes	Piston	None	172†	1280
Atlantic	9	4	1	6 x8	Kerosene	600	Yes	Drip and Spl	L Head	Yes	Piston	None	85†	1452
Atlantic	16	4	2	5½x7	Kerosene	600	Yes	Drip and Spl	L Head	Yes	Piston	None	190†	1590
Atlantic	18	4	2	6 x8	Kerosene	600	Yes	Drip and Spl	L Head	Yes	Piston	None	215†	1753
Atlantic	30	4	4	5½x7	Kerosene	600	Yes	Pressure	L Head	Yes	Piston	None	280†	1908
Atlantic	35	4	4	6 x8	Kerosene	600	Yes	Pressure	L Head	Yes	Piston	None	340†	2546‡
Atlantic	60	4	6	6 x8	Kerosene	600	Yes	Pressure	L Head	Yes	Piston	None	500†	3000
Barcar	7½	4	1	5¼x6	Kerosene	750	No	Drip and Spl	L Head	Yes	Piston	Plunger	.....	784
Barcar	15	4	2	5¼x6	Kerosene	750	No	Drip and Spl	L Head	Yes	Piston	Plunger	.....	1120
Barcar	22½	4	3	5¼x6	Kerosene	750	No	Drip and Spl	L Head	Yes	Piston	Plunger	.....	1568
Barcar	30	4	4	5¼x6	Kerosene	750	No	Drip and Spl	L Head	Yes	Piston	Plunger	.....	1960
Boulton & Paul	3	4	1	3¼x4½	Gas. or Ker.	950	No	Cir. Spl	L Head	Yes	Gear	Spiral Gear	58	224
Brit	6	4	2	3½x4½	Gas. or Ker.	650	Extra	Drip and Spl	L Head	Extra	Plunger	None	75†	336‡
Brit	7	4	1	5 x7	Gas. or Ker.	650	Extra**	Drip and Spl	L Head	Extra	Plunger	None	56	500
Brit	14	4	2	5 x7	Gas. or Ker.	650	Extra	Drip and Spl	L Head	Extra	Plunger	None	106	800
Brit	8	4	1	5½x8	Gas. or Ker.	600	Extra	Drip and Spl	L Head	Extra	Plunger	None	66	650
Brit	16	4	2	5½x8	Gas. or Ker.	600	Extra	Drip and Spl	L Head	Extra	Plunger	None	144	1000
Brit	13	4	1	8 x10	Gas. or Ker.	350	Extra	Drip and Spl	L Head	Extra	Plunger	None	.....	1700
Brit	30	4	2	8 x10	Gas. or Ker.	380	Extra	Drip and Spl	L Head	Extra	Plunger	None	.....	2500
Brit	45	4	3	8 x10	Gas. or Ker.	380	Extra	Drip and Spl	L Head	Extra	Plunger	None	.....	3500
Brooke	3	2	1	3⅜x3¼	Gas. or Ker.	850	Extra	Drip and Spl		No	Plunger	None	44	140
Brooke	4	4	1	3⅜x4¼	Gas. or Ker.	950	Extra	Drip and Spl	T Head	Yes	Eccentric	None	52	202
Brooke	8	4	2	3⅜x4¾	Gas. or Ker.	950	Extra	Pressure	T Head	Yes	Eccentric	Gear	95	425
Brooke	10	4	4	2⅝x4	Kerosene	1000	Extra	Pressure	L Head	No	Eccentric	Plunger	100†	360‡
Brooke	14	4	3	3⅜x4¾	Gas. or Ker.	1000	Extra	Pressure	L Head	Yes	Eccentric	Gear	149	700
Brooke	18	4	4	3⅜x4¾	Gas. or Ker.	1000	Extra	Pressure	T Head	Yes	Eccentric	Gear	200	830
Brooke	25	4	6	3⅜x4¾	Gas. or Ker.	1000	Yes	Pressure	L Head	Yes	Eccentric	Gear	325	1050
Brooke	40	4	6	4¼x4¾	Gas. or Ker.	1000	Yes	Pressure	L Head	Yes	Eccentric	Gear	515	1500
Brooke	20	4	2	5½x6	Gas. or Ker.	800	Extra	Pressure	T Head	Yes	Eccentric	Gear	210	1340
Brooke	45	4	4	5½x6	Gas. or Ker.	900	Extra	Pressure	T Head	Yes	Eccentric	Gear	365	1655
Brooke	65	4	6	5½x6	Gas. or Ker.	900	Extra	Pressure	T Head	Yes	Eccentric	Gear	614	2100
Brooke	120	4	6	6½x8	Gasoline	1100	Extra	Pressure	L Head	Yes	Eccentric	Gear	1065	.....
Brotherhood	15	4	2	4¾x5½	Kerosene	900	No	Pressure	I Head	Yes	Gear	Plunger	205†	1200
Brotherhood	30	4	4	4¾x5½	Kerosene	900	No	Pressure	I Head	Yes	Gear	Plunger	298†	1500
Brunton	6	2	2	2¾x3	Gasoline	[illegible]	No	With Fuel	None	No	Gear	None	50	.....
Day	3	2	1	3¼x3¼	Gasoline	850	No	Drip and Spl	None	No	Gear	None	.....	75
Day	6	2	1	4¼x4½	Gasoline	800	No	Drip and Spl	None	No	Gear	None	.....	175
Day	12	2	2	4¼x4½	Gasoline	750	No	Drip and Spl	None	No	Gar	None	.....	300
Day	16	2	2	4¾x4¾	Gasoline	700	No	Drip and Spl	None	No	Gear	None	.....	450
Dixon	10	4	1	4¾x6½	Gas. or Ker.	900	Yes	Pressure	T Head	Yes	Gear	Gear	140	634
Dixon	20	4	2	4¾x6½	Gas. or Ker.	900	Yes	Pressure	T Head	No	Gear	Gear	230	832
Dixon	30	4	3	4¾x6½	Gas. or Ker.	900	Yes	Pressure	T Head	No	Gear	Gear	290	1197
Dixon	40	4	4	4¾x6½	Gas. or Ker.	900	Yes	Pressure	T Head	No	Gear	Gear	340	1440
Dixon	60	4	6	4¾x6½	Gas. or Ker.	900	Yes	Pressure	T Head	No	Gear	Gear	480	1923
Dixon	70	4	4	6 x6½	Gas. or Ker.	950	Yes	Pressure	T Head	Yes	Gear	Gear	675	2070
Dixon	105	4	6	6 x6½	Gas. or Ker.	950	Yes	Pressure	T Head	Yes	Gear	Gear	960	2800
Dixon	3½	4	1	3½x3½	Gas. or Ker.	950	Yes	Pressure	T Head	No	Gear	Plunger	75	225
Dixon	7	4	2	3½x3½	Gas. or Ker.	950	Yes	Pressure	T Head	No	Gear	Plunger	130	399
Dixon	14	4	4	3½x3½	Gas. or Ker.	950	Yes	Pressure	T Head	No	Gear	Plunger	200	700
Dixon	250	4	12	7 x7½	Gas. or Ker.	900	No	Pressure	T Head	Yes	Gear	Gear	.....	5968
Djinn	7	4	1	3¾x5	Gas. or Ker.	900	No	Pressure	L Head	No	Piston	Piston	80†	650‡
Djinn	10	4	2	3¾x5	Gas. or Ker.	900	No	Pressure	L Head	No	Piston	Piston	100†	680‡
Djinn	15	4	2	4½x6	Gas. or Ker.	800	No	Pressure	L Head	No	Piston	Piston	300†	1100‡
Djinn	20	4	4	3¾x5	Gas. or Ker.	900	No	Pressure	L Head	No	Piston	Piston	200†	1050‡
Djinn	40	4	4	5½x7½	Gas. or Ker.	650	No	Pressure	L Head	No	Piston	Piston	400†	3200‡
Gardner	24	4	2	6½x7½	Gas. or Ker.	600	No	Pressure	T Head	Yes	Gear	Gear	.....	2800
Gardner	36	4	3	6½x7½	Gas. or Ker.	600	No	Pressure	T Head	Yes	Gear	Gear	.....	3470
Gardner	48	4	4	6½x7½	Gas. or Ker.	600	No	Pressure	T Head	Yes	Gear	Gear	.....	4140
Gardner	55	4	3	8 x9	Gas. or Ker.	500	No	Pressure	T Head	Yes	Gear	Gear	.....	5100
Gardner	75	4	4	8 x9	Gas. or Ker.	500	No	Pressure	T Head	Yes	Gear	Gear	.....	6050
Gardner	110	4	6	8 x9	Gas. or Ker.	500	No	Pressure	T Head	Yes	Gear	Gear	.....	9400
Gardner	9	4	2	4 x4½	Gas. or Ker.	1000	No	Pressure	T Head	Yes	Gear	Gear	.....	390
Gardner	12	4	3	4 x4½	Gas. or Ker.	1000	No	Pressure	T Head	Yes	Gear	Gear	.....	530
Gardner	17	4	4	4 x4½	Gas. or Ker.	1000	No	Pressure	T Head	Yes	Gear	Gear	.....	672
Gardner	24	4	2	5½x6½	Gas. or Ker.	800	No	Pressure	T Head	Yes	Gear	Gear	.....	1600
Gardner	36	4	3	5½x6½	Gas. or Ker.	800	No	Pressure	T Head	Yes	Gear	Gear	.....	1900
Gardner	48	4	4	5½x6½	Gas. or Ker.	800	No	Pressure	T Head	Yes	Gear	Gear	.....	2200
Gleniffer	10	4	2	4¼x5	Kerosene	900	Yes	Cir. Spl	L Head	Yes	Piston	Disk	.....	900
Gleniffer	24	4	4	4¼x5	Kerosene	900	Yes	Cir. Spl	L Head	Yes	Piston	Disk	.....	1350
Gleniffer	36	4	6	4¼x5	Kerosene	900	Yes	Cir. Spl	L Head	Yes	Piston	Disk	.....	1670
Gleniffer	12	4	1	6 x8	Kerosene	650	Yes	Cir. Spl	L Head	Yes	Piston	Flywheel	.....	2200
Gleniffer	25	4	2	6 x8	Kerosene	650	Yes	Cir. Spl	L Head	Yes	Piston	Flywheel	.....	2744
Gleniffer	50	4	4	6 x8	Kerosene	650	Yes	Cir. Spl	L Head	Yes	Piston	Flywheel	.....	3572
Gleniffer	75	4	6	6 x8	Kerosene	650	Yes	Cir. Spl	L Head	Yes	Piston	Flywheel	.....	4400

ABBREVIATIONS:

*—Overhead Camshaft.
†—Price includes Reverse Gear
‡—Weight includes Reverse Gear
‡‡—Outboard
**—Battery and Magneto Ignition
Gas—Gasoline
Ker—Kerosene
Drip & Spl.—Drip and Splash
Cir. Spl.—Circulating Splash
Spl. & Press.—Splash and Pressure
With Fuel—Mix Oil with Fuel

British Marine Engine Specifications (Continued)

MAKE	Mfgrs. H.P. Rating	Cycle Type	Number of Cylinders	Bore and Stroke (Ins.)	Fuel	Normal R.P.M.	Impulse Starter Fitted?	Oiling System	Valve Arrangement	Governor Fitted?	PUMPS		Price (Engine Only) £	Weight (Engine Only) (Lbs.)
											Water. Type	Oil. Type		
Grampian	10	4	2	4 x5	Gas. or Ker	800	No	Drip and Spl	L Head	No	Gear	None	88	560
Grampian	20	4	4	4 x5	Gas. or Ker	800	No	Drip and Spl	L Head	No	Gear	None	140	800
Green	35	4	4*	4⅜x4¾	Gasoline	1250	Opt	Pressure	I Head	No	Gear	Gear		224
Green	50	4	6*	4⅜x4¾	Gasoline	1250	Opt	Pressure	I Head	No	Gear	Gear		364
Green	60	4	4*	5½x5¾	Gasoline	1250	Opt	Pressure	I Head	No	Gear	Gear		610
Green	100	4	6*	5½x6	Gasoline	1250	Opt	Pressure	I Head	No	Gear	Gear		950
Green	150	4	6*	5⅝x7	Gasoline	1250	Opt	Pressure	I Head	No	Gear	Gear		1220
Green	275	4	12*	5⅝x6¾	Gasoline	1250	Opt	Pressure	I Head	No	Gear	Gear		1540
Green	450	4	18*	5⅝x7	Gasoline	1250	Opt	Pressure	I Head	No	Gear	Gear		2200
Kelvin	6	4	2	3 x4½	Gas. or Ker	900	No	Splash	Sleeve	Yes	Plunger	Hand	110†	468‡
Kelvin	12	4	4	3 x4½	Gas. or Ker	900	No	Splash	Sleeve	Yes	Plunger	Hand	165†	637‡
Kelvin	12	4	2	4¼x6⅜	Gas. or Ker	800	No	Splash	Sleeve	Yes	Plunger	Hand	185†	1100‡
Kelvin	24	4	4	4¼x6⅜	Gas. or Ker	800	No	Splash	Sleeve	Yes	Plunger	Hand	300†	1550‡
McLaren	10	4	2	4 x5	Kerosene	850	No	Cir. Spl	L Head	No	Gear	Gear		500
McLaren	20	4	4	4 x5	Kerosene	850	No	Cir. Spl	L Head	No	Gear	Gear		890
McLaren	30	4	6	4 x5	Kerosene	850	No	Cir. Spl	L Head	No	Gear	Gear		1300
Parsons	7	4	1	4½x6	Gas. or Ker	800	No	Pressure	L Head	Yes	Gear	Gear	97	470
Parsons	14	4	2	4½x6	Gas. or Ker	800	No	Pressure	L Head	Yes	Gear	Gear	145	625
Parsons	21	4	3	4½x6	Gas. or Ker	800	No	Pressure	L Head	Yes	Gear	Gear	185	900
Parsons	28	4	4	4½x6	Gas. or Ker	800	No	Pressure	L Head	Yes	Gear	Gear	216	1060
Parsons	42	4	6	4½x6	Gas. or Ker	800	No	Pressure	L Head	Yes	Gear	Gear	300	1610
Parsons	30	4	2	6½x8	Gas. or Ker	600	No	Pressure	L Head	Yes	Gear	Gear	272	2060
Parsons	45	4	3	6½x8	Gas. or Ker	600	No	Pressure	L Head	Yes	Gear	Piston	357	2695
Parsons	60	4	4	6½x8	Gas. or Ker	600	No	Pressure	L Head	Yes	Gear	Piston	429	3205
Parsons	90	4	6	6½x8	Gas or Ker	600	No	Pressure	L Head	Yes	Gear	Piston	610	5010
Phillip	7	4	1	4¾x5½	Gas. or Ker	850								600
Phillip	14	4	2	4¾x5½	Gas. or Ker	850								950
Phillip	28	4	4	4¾x5½	Gas. or Ker	850								1300
Phillip	20	4	4	4 x5½	Gas. or Ker	850								950
Pollock	20	4	2	5½x6	Kerosene	700	Yes	Spl. and Pressure	I Head	Yes	Gear	Gear		1120
Pollock	40	4	4	5½x6	Kerosene	700	Yes	Spl and Pressure	I Head	Yes	Gear	Gear		1680
Reed	6	2	1	2¾x3	Gas. or Ker	800	No	Splash	None	Yes	Plunger	None	46	250
Reed	12	2	2	2¾x3	Gas. or Ker	800	No	Splash	None	Yes	Plunger	None	80	.....
Reed	24	2	3	2¾x3	Gas. or Ker	800	No	Splash	None	Yes	Plunger	None	120	.....
Reed	36	2	4	2¾x3	Gas. or Ker	800	No	Splash	None	Yes	Plunger	None	160	.....
Seal	4	4	1	4 x3¼	Gas. or Ker	900	No	Pressure	L Head	Yes	Gear	Gear	75	135
Smart & Brown	12	4	1	6 x7	Gas. or Ker	400	No	Pressure	L Head	Yes	Gear	Gear		.....
Smart & Brown	20	4	2	6 x7	Gas. or Ker	400	No	Pressure	L Head	Yes	Gear	Gear		.....
Smart & Brown	40	4	4	6 x7	Gas. or Ker	600	No	Pressure	L Head	Yes	Gear	Gear	645	.....
Thornycroft	9	4	2	3½x4½	Gas. or Ker	1000	No	Splash	L Head	No	Plunger	None	†	560‡
Thornycroft	15	4	2	4½x6	Gas. or Ker	1000	No	Pressure	L Head	Yes	Gear	Gear		924‡
Thornycroft	30	4	4	4½x6	Gas. or Ker	1000	No	Pressure	L Head	Yes	Gear	Gear		1918
Thornycroft	26	4	4	4 x5½	Gas. or Ker	1100	No	Pressure	F Head	Yes	Gear	Gear		1316
Thornycroft	50	4	4	6 x8	Gas. or Ker	700	No	Pressure	F Head	Yes	Gear	Gear		2912
Thornycroft	75	4	6	6 x8	Gas. or Ker	700	No	Pressure	F Head	Yes	Gear	Gear		4000
Thornycroft	70	4	6	4 x7	Gasoline	1300		Pressure	F Head	No	Gear	Gear		1190
Watermota	3‡‡	2	1	2¾x3	Gasoline	900	No	With fuel	None	No	Plunger	None	55	100
Watermota	3	2	1	2¾x3	Gasoline	900	No	With fuel	None	No	Plunger	None	34	60
Watermota	6	2	2	2¾x3	Gasoline	900	No	With fuel	None	No	Plunger	None	55	95
Wear	5	4	1	4¼x6	Kerosene	700	Extra	Splash	L Head	No	Plunger	Plunger	90	670
Wear	10	4	2	4¼x6	Kerosene	700	Extra	Splash	L Head	No	Plunger	Plunger	155	950
Wear	15	4	3	4¼x6	Kerosene	700	Extra	Splash	L Head	No	Plunger	Plunger	210	1230
Wear	20	4	4	4¼x6	Kerosene	700	Extra	Splash	L Head	No	Plunger	Plunger	280	1510
Wear	23	4	2	6½x6½	Kerosene	650	Extra	Splash	L Head	No	Plunger	Plunger	300	1350
Wear	45	4	3	6½x6½	Kerosene	650	Extra	Splash	L Head	No	Plunger	Plunger	420	1900
Wear	48	4	4	6½x6½	Kerosene	650	Extra	Splash	L Head	No	Plunger	Plugner	560	2660
Webber	15	4	2	4 x6	Gas. or Ker	800	Extra	Pressure	L Head	Yes	Plunger	Plunger		670
Webber	30	4	4	4 x6	Gas. or Ker	800	Extra	Pressure	L Head	Yes	Plunger	Plunger		.....
Wolseley	16	4	4	3⅞x4¾	Gas. or Ker	1000	No	Cir. Spl	L Head	No	Gear	Gear	150	720
Wolseley	30	4	6	3¾x5⅛	Gas. or Ker	1000	No	Cir. Spl	L Head	No	Gear	Gear	250	1000
Wolseley	60	4	6	4¾x5¾	Gas. or Ker	1000	No	Cir. Spl	L Head	No	Gear	Gear	600	1450

For abbreviations see page 452.

Design Features of British Marine Engines

By M. W. Bourdon

A MULTIPLICITY of models is the policy of British marine engine makers in general, and in one or two instances this is carried so far as to result in some of the types being made practically "to order" only. It is noteworthy, however, that the makers who immediately after the war brought their designs up to date and specialized on a comparatively small range of types have felt least the effects of the depression.

Quite a large proportion of makers favor the separately cast cylinder design, a plan which is desirable from a production standpoint when—as is so often the case—the range of models includes engines of the same bore and stroke with one, two, four and six-cylinders and sometimes with three also. The T-head cylinder is now used only on "heavy duty" models. There are one or two new overhead valve models and in each an overhead camshaft is used, this feature appearing on the engines designed for the National Lifeboat Institution.

Engine speeds for pleasure craft show a slight tendency to increase, and there is an increasing popularity of reducing gears between crankshaft and propeller shaft, especially for the heavier classes of boat and for towing or auxiliary installations. Several makers are now recommending reducing gears in order to obtain a higher propeller efficiency, the usual reduction being approximately 2 to 1. Unit powerplants are far more frequently seen than hitherto, but, despite this, by far the great number of engines are separate from the gear casings. In one case, that of the Brunton two-cycle two-cylinder, the reducing gear is incorporated in the crankcase.

American and Foreign

Specification Number	MAKE AND MODEL	CHARACTERISTICS: Class	Type	Designed For	Seating Capacity	Over-All Dimensions: Length (Ft.—In.)	Height (Ft.—In.)	Width (Ft.—In.)	Are Wings of Folding Type?	ENGINE: Make	Number	Total Horse Power	Type	Method of Starting	PERFORMANCE (Full Load): Speed Miles per Hour: Full Throttle	Altitude (Feet)	Cruising	Altitude (Feet)	Landing	Climb: Altitude (Feet)	Minutes
										AMERICAN											
1	**Aerial Eng.	TrMo.	Land Mac ..	Rac...	1	21-1¼	6-4½	28-1	No...	Wright H3.	1	400	W-Vee....		190.0	SeL...			75.0		
2	Aeromarine, 44.	PuBi..	Flying B....	Train.	2*	28-11½	12-1	48-6	No...	Aeromarine U6D.	1	145	W-Ver....	Hand Crk.	75.0	SeL...	60.0	SeL...	42.0	2400	10
3	Aeromarine, 50	PuBi..	Flying B....	Pas&F	3	28-11½	12-1	48-6	No...	Aeromarine U8D.	1	180	W-Ver....	Hand Crk.	82.0	SeL...	65.0	SeL...	44.0	3500	10
4	Aeromarine, 85	PuBi..	Flying B....	Pas&F	6	38-1	14-10	73-11	No...	Liberty 12	1	330	W-Vee....	Hand Crk.	80.0	SeL...	70.0	SeL...	48.0	1900	10
5	Aeromarine, 75	TrBi..	Flying B....	Pas&F	14	49-4	18-9	103-9	No...	Liberty 12.	2	660	W-Vee....	Hand Crk.	84.0	SeL...	70.0	SeL...	54.0	2500	10
6	Bee Line, BR.	TrMo.	Land Mac ..	Rac...	1	21-1½	6-4½	28-1	No...	Wright H-3.	1	330	W-Vee....		190.0	SeL...			70.0		
7	**Bellanca, CF5	TrMo.	Land Mac ..	Pas&F	5	23-10	.....	40-10	No...	Anzani	1	90	A-Rad....	ProSwg...	109.8	SeL...	95.0	SeL...	30.0	7000	11
8	Curtiss, Standard.	TrBi..	Land Mac ..	Pas&F	3	27-1½	10-5	44-10	No...	Curtiss C-6.	1	160	W-Ver....	Elec Mot..	80.0	SeL...	70.0	SeL...	43.0	10000	75
9	Curtiss, Oriole.	TrBi..	Land Mac ..	Pas&F	3	26-0	10-3	40-9	No...	Curtiss C-6.	1	160	W-Ver....	Elec Mot..	96.0	SeL...	60.0	SeL...	45.0	10000	60
10	Curtiss, Oriole.	TrBi..	Land Mac ..	Rac...	1	25-0	10-3	37-2	No...	Curtiss C-6.	1	150	W-Ver....	Elec Mot.							
11	Curtiss, Seagull.	PuBi..	Flying B....	Pas&F	3	28-10	11-9	50-3	No...	Curtiss C-6.	1	160	W-Ver....	Elec Mot..	76.5	SeL...	68.0	SeL...	48.5	6500	25
12	Curtiss, T-S.	TrBi	Convert	{Dek F / Fig.S	1	24-10 / 22-1¼	9-7 / 8-11¼	{25-0 / 25-0	.....	Lawrence J-1.	1	200	A-Rad....	Hand Crk.	122.0	SeL...			45.0	6500	8½
13	Curtiss, Navy.	TrBi..	Land Mac ..	Rac...	1	21-0½	8-11	22-8	No...	Curtiss CD-12.	1	430	W-Vee....	Hand Mag.	200.0	SeL...			70.0	15000	10
14	Curtiss, Army	TrBi..	Land Mac ..	Rac...	1	18-11	7-10	19-0	No...	Curtiss D-12	1	460	W-Vee....	Hand Mag.	224.5	SeL...			75.0		
15	Curtiss, C-T.	TrMo.	Seaplane....	TorpC	2	52-0	15-11	65-0	No*†	Curtiss CD-12.	2	800	W-Vee....	Elec Mot..	113.0	SeL...	90.0	SeL...	55.0	3000	10
16	Curtiss, Martin.	TrBi.	Land Mac ..	D&NB	3	.....			Yes	Liberty 12	2	836	W-Vee....	Elec Mot..	97.5	SeL...			59.0	5700	20
17	**Curtiss, H-16.	TrBi.	Flying B....	Recon.	5	48-6	17-9	95-1	No...	Liberty HC.	2	840	W-Vee....		100.0	SeL...					
18	**Curtiss, 18-T.	TrTi..	Seaplane....	FigS..	2	28-4	12-0	40-7½	No...	Curtiss CD12	1	400	W-Vee....		140.0	SeL...					
19	Dayton-Wright, TW3.	TrBi..	Land Mac ..	Sp&Tr	2	25-10¾	9-8	4-4	No...	Wright E	1	180	W-Vee....	Hand Mag.	106.0	SeL...	85.0	SeL...	45.0	7000	10
20	Dayton-Wright, Chummy.	TrBi..	Land Mac ..	Sp&Tr	2	22-1	9-7	3-7	No...	LeRhone.	1	80	A-Rot....	ProSwg....	87.0	SeL...	78.0	SeL...	40.0	4000	10
21	**Gallaudet, D-4	PuBi..	Seaplane....	Recon.	3	33-6	11-8	46-5	No...	Liberty HC.	1	400	W-Vee....		135.0	SeL...			55.0		
22	**Elias-Stupar.	TrBi..	Land Mac ..	Pas&F	5	24-4	9-4	34-5¼	No...	LeRhone.	2	160	A-Rot....	ProSwg....	90.0½	SeL...			50.0	1000	14
23	Huff-Daland, HD8C.	TrBi..	Land Mac ..	Pas ..	3	24-0	9-0	31-1	No...	Curtiss OX5	1	90	W-Vee....	ProSwg....	90.0	SeL...			38.0	3000	7
24	Huff-Daland, TA-2.	TrBi..	Land Mac ..	Train.	2	22-0	8-10	30-8	No...	Lawrance R.	1	140	A-Rad....	ProSwg....	118.0	SeL...	80.0	SeL...	45.0	10000	13½
25	Huff-Daland, HN-1.	TrBi..	Land Mac ..	Train.	2	28-6	10-7	33-0	No...	Wright E-2.	1	180	W-Vee....		96.0	SeL...			46.0		
26	Lawrence Sperry.	TrBi..	Land Mac ..	Sport..	1*	18-6	7-0	20-4	No...	Lawrance.	1	60	A-Rad....	ProSwg...	80.0	SeL...	65.0	5000	35.0	5000	10
27	Lawrence Sperry.	TrMo.	Land Mac ..	Pas&F	4	26-0	.....	38-0	No...	Curtiss OXX	1	110	W-Vee....	ProSwg...	85.0	SeL...	70.0	5000	37.0	5000	18
28	**L. W. F., Owl	TrBi..	Land Mac ..	DayB.	8	53-9	17-6	106-8	No...	Liberty 12	3	1200	W-Vee....		106.0	SeL...			56.0		
29	Longren, AK	TrBi..	Land Mac ..	Sp&Tr	2	19-0	7-8	9-8	Yes..	Anzani 6A3.	1	70	A-Rad....	ProSwg....	103.0	1000	95.0	1000	30.0	5000	6
30	**Loening	TrMo.	Land Mac ..	Rac...	1	21-0	7-0	27-0	No...	Packard 2025	1	600	W-Vee....		190.0	SeL...			72.0		
31	Loening, 23L.	PuMo.	Flying B....	Pas&F	5	30-0	9-9	42-0	No...	Liberty 12	1	400	W-Vee....	Em&Hc..	135.0	SeL...	120.0	SeL...	50.0	8000	10
32	**Martin, Glen L.	TrBi	Land Mac...	DayB.	3	43-7½	15-6¾	37-10	.....	Liberty 12	2	840	W-Vee....		100.0	SeL...			60.0	4000	10
33	**Martin, Glen L M01	TrMo.	Land Mac ..	Recon.	3	.....	.....	.....	No*†.	Curtiss D12.	1	375	W-Vee....								
34	Remington-Burnelli.	TrBi..	Land Mac ..	Pas&F	30	40-4	17-7	74-0	No...	Beardmore "Atlantic"	2	1100	W-Vee....	Elec Mot..	115.0	1000	100.0	5000	50.0	4000	10
35	**Rogers	TrMo.	Land Mac ..	Pas&F	3	.....	.....	31-0	No...	Curtiss OX5.	1	90	W-Vee....	ProSwg....	85.0	SeL...	.....	.....	42.0	5000	10
36	**Satto.	TrBi	Land Mac ..	Pas&F	7	30-2	11-10¾	43-6	No...	Liberty 12	1	400	W-Vee....		125.7	SeL...	83.0	SeL...	45.0	15000	35
37	**Swanson, 3	TrBi	Land Mac ..	Sport..	1	15-0	5-7	18-9	No...	Lawrance.	1	28	A-Rad....	ProSwg...	90.0	SeL...	.....	.....	40.0		
38	Thomas Morse, TM-22.	TrMo.	Land Mac ..	FigS..	1	19-9	8-3	29-0	No...	Packard 2025.	1	600	W-Vee....		188.0	SeL...	140.0	SeL...	75.0	2300	1
39	**Verville-Sperry.	TrMo.	Land Mac ..	FigS..	1	22-0	.....	32-4	No...	Wright H-3.	1	380	W-Vee....		190.0	SeL...			67.0		
40	Vought, VE-9	TrBi..	Land Mac...	Train.	2	24-6	8-7	34-1½	No...	Wright E-2.	1	180	W-Vee....		120.0	SeL...			55.0	9000	10
41	**Vought, UO1	TrBi..	Seaplane....	Recon.	2	29-3	10-0	34-1¼	No...	Aeromarine U873.	1	250	W-Vee....		120.0	SeL...					
42	**War Department, DH4B.	TrBi	Land Mac...	DayB.	2	29-11	9-8	42-5½	No...	Liberty 12.	1	420	W-Vee....		124.0	SeL...					
43	**War Department, Lepere	TrBi..	Land Mac...	Recon.	2	25-3	9-6	41-7½	No...	Liberty 12.	1	420	W-Vee....		133.0	SeL...					
44	**War Department, XB1A.	TrBi..	Land Mac...	Recon	2	25-6	9-9½	39-4½	.....	Wright 4.	1	380	W-Vee....		130.0	SeL...					
45	Wright.	TrMo.	Land Mac...	Rac...	1	.....	.....	.....	No...	Wright T-2.	1	650	W-Vee....								
										BRITISH											
1	**Armstrong-W, "Siskin".	TrBi..	Land Mac...	FigS..	1	22-6	10-0	33-2	No...	Siddeley..	1	325	A-Rad....	CompAir..	148.0	2000	120.0	10000	45.0	20000	18
2	Avro, 504K.	TrBi..	Land Mac...	Train.	2	29-0	10-5	36-0	No...	LeRhone	1	110	A-Rot....	ProSwg...	85.0	5000	78.0	1000	37.0	5000	60
3	Avro, 504-L	TrBi..	Seaplane....	Train.	2	32-0	11-4	36-0	No...	Clerget.	1	130	A-Rot....	Hand Crk.	82.5	5000	75.5	1000	40.0	5000	9
4	Avro, 534.	TrBi..	Land Mac...	Sport..	1	17-0	7-7	25-0	No...	Green	1	40	W-Ver....	ProSwg...	77.5	5000	65.0	1000	33.0	5000	11
5	Avro, 547A.	TrTi..	Land Mac...	Pas&F	5	29-10	14-5	37-0	No...	Siddeley "Puma".	1	240	W-Ver....	Hand Mag.	94.5	5000	85.0	1000	45.0	5000	7
6	Avro, 552A.	TrBi..	Land Mac...	Train.	2	28-11	10-5	36-0	No...	Wolseley "Viper".	1	180	W-Vee....	Hand Mag.	109.7	8000	85.0	1000	44.0	5000	9
7	Avro, 552	TrBi..	Seaplane....	Train.	2	32-1	11-10	36-0	No...	Wolseley "Viper".	1	180	W-Vee....	Hand Mag.	96.0	8000	75.0	1000	47.0	5000	9
8	Avro, 554	TrBi..	Seaplane....	Recon.	2	22-5	9-7	26-3	No...	LeRhone.	1	80	A-Rot....	ProSwg...	86.5	5000	65.0	1000	49.0	5000	15
9	**Avro, "Bomber".	TrBi.	Land Mac ..	DayB.	2	.....	.....	.....	No...	Napier "Cub".	1	1000	FR-Vee...	GasM....	Details	withhe	ld by	British	Gover	nment	....
10	Beardmore, WB2	TrBi..	Land Mac...	Recon.	2	27-7	10-11	35-0	No...	Beardmore.	1	200	W-Ver....		105.0	10000			55.0	1000	15
11	Beardmore, WB1X.	TrBi..	Amphibian...	Pas&F	10	61-0	22-0	52-0	Yes...	Beardmore.	4	800	W-Ver....				82.0	10000	46.0	5000	18
12	Blackburn "Swift".	TrBi..	Land Mac...	TorpC	1	34-10	12-3	48-6	Yes...	Napier "Lion"	1	470	TRVee ..	Hand Crk.	109.0	3000	95.0	3000	45.00	10000	27
13	Boulton & Paul, P9.	TrBi..	Land Mac...	Sport..	2	25-0	10-0	27-6	No...	R.A.F. 1A.	1	90	A-Vee....	ProSwg...	104.0	1000	80.0	1000	42.0	1000	9
14	**Boulton & Paul, P15.	TrBi..	Land Mac ..	DayB.	4	.....	.....	.....	No...	Napier "Lion	2	900	TRVee ..	Hand Mag.	Details	withhe	ld by	British	Gover	nment	....
15	Bristol.	TrMo.	Land Mac ..	Rac...	1	20-4	8-0	30-9	No...	Bristol 1.	1	100	A-Rad....	Hand Mag.	110.0	1000	95.0	1000	48.0	5000	15
16	Bristol.	TrBi..	Land Mac...	Pas&F	3	23-3	8-10	31-2	No...	Bristol 1.	1	100	A-Rad....	Hand Mag.	88.0	5000	70.0	5000	47.0	5000	15
17	Bristol.	TrBi..	Land Mac...	Pas&F	10	40-0	11-8	56-0	No...	Bristol.	1	380	A-Rad....	Hand Mag.	110.0	5000	95.0	5000	51.0	5000	15
18	**English Elec., 1P5"Cork"	TrBi..	Flying B....	Recon.	5	53-0	21-0	85-0	No...	Napier "Lion".	2	900	TRVee....	Hand Mag.	115.0	SeL...	90.0	SeL...	.....	.....	
19	**Fairey, 3.	TrBi..	Seaplane....	Recon.	2	36-0	14-0	46-1	No...	Napier "Lion".	1	450	TRVee....	Hand Mag.	.....	.....	.....	.....	.....	.....	
20	Glouc.[2] "Mars" 1.	TrBi..	Land Mac...	Rac...	1	22-0	9-3	21-0	No...	Napier "Lion".	1	450	TRVee....	Hand Mag.	200.0	SeL...	.....	.....	75.0		
21	Glouc.[2] "Mars" 2-4.	TrBi..	Land Mac...	DekF.	1*	19-6	9-6	28-0	No...	B.R. 2.	1	230	A-Rot....	ProSwg...	125.0	SeL...	110.0	SeL...	50.0	15000	25

ABBREVIATIONS:

PuMo—Pusher Monoplane
TrMo—Tractor Monoplane
PuBi—Pusher Biplane
TrBi—Tractor Biplane
TrTi—Tractor Triplane
P&TB—Pusher & Tractor Biplane
P&TT—Pusher & Tractor Triplane
P&TQ—Pusher & Tractor Quadraplane
P&TM—Pusher & Tractor Monoplane
Convert—Adaptable either for floats or wheels
Flying B—Flying Boat
Land Mac—Land Machine
Day B—Daylight Bombing
DekF—Deck Flying
ExPl—Experimental purposes
D&NB—Daylight and Night Bombing
FigS—Fighting Scout
MailC—Mail Carrier
Passen—Passenger Carrier
Pas&F—Passengers & Freight
Recon—Reconnoissance
Rac—Racing
Sp&Tr—Sport & Training
TorpC—Torpedo Carrier
Train—Training
A-Rad—Air Cooled Radial
A-Rot—Air Cooled Rotary
W-Rad—Water Cooled Radial
W-Vee—Water Cooled Vee
W-Ver—Water Cooled Vertical

Airplane Specifications

Service or Ceiling Height (Feet)	Endurance at Cruising Speed (Hrs.)	GENERAL DIMENSIONS: Span Main Wings Upper (Ft.—In.)	Span Main Wings Lower (Ft.—In.)	Chord Main Wings Upper (Ft.—In.)	Chord Main Wings Lower (Ft.—In.)	Angle of Incidence Upper (Degrees)	Angle of Incidence Lower (Degrees)	Total Areas in Square Feet: Main Wings	Total Areas in Square Feet: Horizontal Tail Surfaces	Total Areas in Square Feet: Vertical Tail Surfaces	Gap (Ft.—In.)	Stagger (In.)	Dihedral (Degrees)	Sweepback (Degrees)	Factor of Safety	Weight in Pounds: Empty	Weight in Pounds: Loaded	Weight in Pounds: Useful Load	Weight in Pounds: Useful % of Total Load	Weight in Pounds: Weight Per Horsepower	Weight in Pounds: Weight Per Sq. Foot	Fuel Consumption per Hour at Cruising Speed (Gals.): Gas	Fuel Consumption per Hour at Cruising Speed (Gals.): Oil	Are Control Surfaces Balanced?	Specification Number
AMERICAN																										
		28-1	None...	6-0	None...			104.0		.....	0	0	3	0	.....	.....	2020	.....	.....	.....	.....	.....	.....	.....	1
7500	4	48-6	37-8	6-3	6-3	3	2	504.0	64.6	32.5	6-6	12	2	0	6.5	2390	3040	650	21.4	21.4	6.1	11.8	.15	Rud..	2
9000	4	48-6	37-8	6-3	6-3	4½	3	504.0	64.6	32.5	6-6	12	2	0	6.0	2490	3420	930	27.2	19.0	6.6	16.0	.28	Rud..	3
	4¼	73-11	64-0	6-3	6-3	5½	4	800.0	100.4	46.6	7-6½	0	2	0	.....	4345	6400	2055	32.1	19.7	8.0	30.0	2.00	A&R..	4
9000	8	103-9	74-4	8-0	8-0	4	4	1397.0	176.2	68.2	9-10½	0	1½	0	.....	9300	14000	4700	33.6	21.2	10.0	60.0	4.00	A&R..	5
		28-1	None...	6-0	None...	0	0	104.0	16.3	8.0	None...	0	3½	0	.....	1635	2020	385	19.1	6.15	19.4	.....	.....	.....	6
21000	.....	40-0	.....	22-0	6-6††	2-6	.....	290.0φ	.....	.....	None...	0	0	0	9.0	950	1990	1040	.....	.....	6.8	9.5	.....	No....	7
11000	3	44-10	32-7	6-0	6-0	2½	2½	432.0	.....	.....	5-11	5½	1	5	.....	1500	2275	320	.....	9.4	5.3	13.3	.60	No....	8
15000	3½	40-9	40-9	5-6	5-6	3½	3½	399.6	.....	.....	67-0	9½	1½	0	.....	1732	2522	320	.....	10.8	6.3	13.3	.60	No....	9
		34-11	34-11	5-3	5-3	3½	3½	.....	.....	.....	5-8	10½	1½	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	Yes..	10
7000	3½	50-3	38-7	5-0	5-0	6	6	400.0	.....	.....	6-4	0	2‡	0	.....	1911	2726	320	.....	12.0	6.8	13.3	.60	A&R.	11
13500	2½‡‡	25-0	25-0	4-9	4-9	0	0	228.0	27.8	10.3	5-6	0	3‡	0	7-8	{1409 / 1216	{2096 / 1903	{687 / 687	.....	.....	.....	20.0	.....	No....	12
25000	2‡‡	21-0½	21-0½	4-0	4-0	0	0	168.0	21.8	14.0	4-0	12	2‡	0	.....	1782	2212	430	19.4	5.5	13.2	32.2	.77	No....	13
	1½‡‡‡	19-0	19-0	3-10	3-10	0	0	138.0	18.1	9.8	3-10½	7½	0	0	.....	1454	1950	.....	.....	4.5	14.6	38.4	.....	No....	14
5100	3½	65-0	None...	16-0®	None...	0	.....	830.0	106.8	55.2	None...	0	5	0	.....	7533	10342	1444	14.0	9.4	12.4	62.5	1.40	Yes..	15
7700	5½‡‡	74-2	74-2	7-11	7-11	2	2	1121.0	105.4	57.1	8-6	0	2	0	4.5	7069	12027	4958	41.2	14.4	10.7	66.0	2.00‡‡	Rud..	16
		95-1	68-11	17-1	17-1	4	4	1464.0	.....	.....	8-1	0	1	0	.....	.....	10900	.....	.....	.....	.....	.....	.....	No....	17
		40-7½	40-7½	3-6	3-6	2½	2½	400.0φ	.....	.....	2-11‡	0	0	.....	.....	.....	3972	.....	.....	.....	.....	.....	.....	No....	18
16650	5	37-4½	37-4½	4-6	4-6	2	2	298.0	16.9	9.4	4-7½	15	2½-3½	0	6.0	1681	2373	692	.....	13.2	7.7	12.0	.50	Opt..	19
12000	3	31-0	25-11	4-6	4-6	2	2	231.5	16.9	5.6	4-10½	15	2¾	0	6.0	1134	1675	525	.....	18.8	7.2	7.5	1.0	No....	20
		46-5	45-0	7-0	7-0	2¼	2¼	320.0	.....	.....	7-0	0	0	Var...	.....	.....	5440	.....	.....	.....	.....	.....	.....	.....	21
	3	34-5¾	34-5¾	5-6	5-6	3	3	385.0φ	20.0	7.0	5-6	0	2	0	.....	1569	3200	955	.....	.....	.....	.....	.....	No....	22
11000	3½‡‡‡	29-0	21-0	5-6	4-0	0	0	227.0	40.0	12.9	4-8	11	0	0	8.0	1124	1844	720	.....	20.2	8.2	9.0	.33	A&R.	23
18000	2½‡‡‡	25-0	20-4	4-6	3-2½	0	0	166.0	29.9	10.0	4-9	12	0	0	.....	952	1595	643	.....	11.4	9.6	.....	.....	A&R.	24
11000	.....	33-0	24-4	6-0	4-6			294.0	40.0	14.2	5-2	17½	0	0	.....	1795	2525	730	28.9	14.0	8.6	.....	.....	.....	25
	4	20-0	20-0	4-0	4-0	2	2	155.0	.....	.....	3-9	18	1½	0	6.5	581	1011	430	42.0	17.0	6.5	4.2	.50	No....	26
10000	3	38-0	None...	7-0	None...	1½	.....	275.0	None.	.....	None...	0	0	0	9.0	1450	2250	800	35.0	20.5	8.2	8.0	1.00	Ele..	27
	5††	.....	.....	.....	.....	.....	.....	2126.0φ	.....	.....	.....	0	.....	.....	.....	.....	21186	.....	.....	.....	.....	.....	.....	.....	28
20000	3	28-0	22-0	4-3	4-3	3	2	189.0	24.9	8.2	4-3	0	3	0	8.0	605	1105	500	45.0	17.5	5.5	5.0	.50	No....	29
	1½‡‡	27-0	None...	.....	.....	.....	.....	174.0	.....	.....	None...	0	.....	0	.....	.....	2700	.....	.....	4.3	16.0	.....	.....	.....	No....	30
18000	4	42-0	None...	9-0	None...	4½	0	322.5	50.3	39.8	None...	0	0	0	6.5	2750	4125	1375	33.5	10.3	12.8	20.0	1.00	Rud..	31
9000	4½‡‡	74-2	74-2	7-11	7-11	2	2	1121.0	105.4	56.1	8-6	0	2‡	0	.....	7057	12075	5018	41.5	14.4	10.7	.....	.....	Rud..	32
		.....	None...	11-6®	None...	.....	0	.....	.....	.....	None...	0	.....	.....	8.0	.....	2920	.....	.....	.....	.....	.....	.....	Rud	33
14000	5	74-0	74-0	10-9	10-9	3	3	1310.0	124.0	60.0	11-0	0	1½	4	8.0	9625	17000	7375	44.0	14.5	12.0	60.0	2.50	Yes..	34
	2½‡‡	29-0	29-0	4-6	4-6	.....	.....	252.0	19.0	14.0	5-0	10½	0	0	.....	1050	.....	660	.....	.....	.....	.....	.....	A&R..	35
17000	.....	43-6	43-6	5-6	5-6	3	3	480.0φ	.....	.....	6-11¾	0	5‡	0	.....	2711	4671	1040	.....	.....	9.6	.....	.....	Rud..	36
		18-9	18-9	2-10	2-10	3½	2	100.0	12.0	6.0	3-4	14	4	0	.....	370	570	.....	.....	20.0	5.7	.....	.....	No....	37
23000	2	29-0	None...	6-0	None...	Var...	0	172.0	24.7	9.0	None...	0	2	Var...	5.5	2150	2850	700	25.0	4.7	16.6	32.0	2.00	E&R.	38
		32-4	None...	5-0	None...	.....	0	150.0	23.0	11.0	None...	0	.....	.....	.....	.....	2225	.....	.....	.....	.....	.....	.....	.....	39
19000	.....	34-1½	34-1½	4-7½	4-7½	1½	2¼	284.5	36.4	11.0	4-8	11½	1½	0	.....	1560	2175	6115	28.3	12.0	7.6	.....	.....	.....	40
		34-1½	34-1½	6-0	6-0	.....	.....	308.0φ	.....	.....	4-8	0	0	.....	.....	.....	2608	.....	.....	.....	.....	.....	.....	.....	41
		42-5½	42-5½	5-6	5-6	.....	.....	440.0φ	.....	.....	.....	.....	.....	.....	.....	2732	2497	.....	.....	.....	.....	.....	.....	Rud..	42
		41-7½	41-7½	5-5½	5-5½	.....	.....	415.6φ	.....	.....	.....	.....	.....	.....	.....	2561	3746	.....	.....	.....	.....	.....	.....	Ele...	43
		39-4½	39-4½	5-6	5-6	.....	.....	405.6φ	.....	.....	.....	.....	.....	.....	.....	2155	3791	.....	.....	.....	.....	.....	.....	.....	44
		.....	.....	.....	.....	.....	.....	.....	.....	.....	None...	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	45
BRITISH																									
28000	2½	28-4	22-0	6-0	5-0	5	5	255.0	26.0	16.0	4-4	40	3½	0	7	1550	2250	700	32.0	6.9	8.9	15.0	1	Rud..	1
	3	36-0	36-0	4-10	4-10	4½	4½	330.0	44.0	9.0	5-6	26	2½	0	.....	1230	1830	600	32.0	16.6	5.6	14.0	.....	No....	2
	2½	36-0	36-0	4-10	4-10	4½	4½	330.0	44.0	15.0	5-6	26	2½	0	.....	1400	2000	600	30.0	18.2	6.0	14.5	.....	No....	3
	3	25-0	23-1	4-0	4-0	4	4	176.5	21.5	7.0	4-0	16	3	0	.....	616	870	254	29.0	21.7	4.9	30.0	.....	No....	4
	4½	37-0	37-0	4-9½	4-9½	4	4	498.0	26.0	15.0	.....	.....	2½	0	.....	2080	3286	1206	37.0	13.7	6.6	12.0	.....	Yes..	5
	.....	36-0	36-0	4-9½	4-9½	.....	.....	330.0	44.0	9.0	5-6	26	2½	0	.....	1631	2235	604	27.0	11.2	6.7	30.0	.....	No....	6
	.....	36-0	36-0	4-9½	4-9½	.....	.....	330.0	44.0	15.0	5-6	22	2½	0	.....	2082	2686	604	23.0	12.8	7.8	30.0	.....	No....	7
	.....	26-3	24-1	4-0	4-0	.....	.....	172.0	24.7	7.0	.....	0	3	0	.....	1000	1587	589	37.0	18.7	9.2	16.0	.....	No....	8
		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
17000	3½	35-0	35-0	.....	.....	.....	.....	354.0	.....	.....	.....	.....	.....	.....	.....	1751	2516	300	.....	17.5	7.1	4.5	.72	Rud..	10
11000	5	107-0	107-0	.....	.....	.....	.....	2202.0	.....	.....	.....	.....	.....	.....	.....	9520	14000	1800	.....	9.5	6.3	58.0	4.2	No....	11
17000	3½	48-6	48-6	7-9	7-9	5	5	720.0	95.0	28.0	7-6	15	3	5	6	3582	6300	2718	43.0	13.4	8.7	23.0	1.2	Yes..	12
14000	5	27-6	27-6	5-6	5-6	2	2	285.0	40.0	12.5	5-6	0	2½	0	7	1180	1800	620	34.4	18.0	6.3	5.0	.5	Rud..	13
		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rud..	14
16300	2½	30-9	None...	5-11	None...	0	0	145.0	38.0	10.8	None...	0	2	0	5	854	1232	198	16.0	12.3	8.5	8.7	1.1	No....	15
9000	3	31-2	31-2	5-3	5-3	3	3	285.0	34.0	7.3	5-0	28	3	0	4	1210	2000	610	33.0	20.0	7.0	8.7	1.1	No....	16
8500	5½	56-0	56-0	7-0	7-0	2½	2½	700.0	72.0	26.2	5-9	0	3	2½	5.3	1012	6715	2360	35.1	17.1	9.6	18.0	1.7	Rud..	17
	8¼	85-0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	0	.....	8400	13900	5500	.....	.....	.....	.....	.....	Rud..	18
	.....	46-1	46-1	5-6	5-6	.....	.....	500.0	46.2	23.5	5-7	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rud..	19
	2	21-0	21-0	4-6½	4-6½	1½	1½	165.0	28.0	10.5	4-9	16	3	0	6.0	2130	2700	180	6.7	6.0	16.4	25.0	1.0	No....	20
19000	2	28-0	28-0	5-3	5-3	3	3	270.0	28.0	10.5	4-6	20	4	0	7.0	1400	2165	400	18.5	9.4	8.0	16.0	2.0	No....	21

A-Vee—Air Cooled Vee
TRVee—Water Cooled Three Row Vee
FRVee—Water Cooled Four Row Vee
Hand Crk—Hand Crank
Em & Hc—Electric Motor and Hand Crank
Elec Mot—Electric Motor
CompAir—Compressed Air
Gas M—Auxiliary Gasoline Motor
ProSwg—Propeller Swinging
SeL—Sea Level
Ail—Ailerons
Ele—Elevators
Rud—Rudders
A&R—Ailerons & Rudders
E&R—Elevators & Rudders
Opt—Optional
Var—Varies
**—Taken from publications
*—One extra seat provided
®—Cord dimension at root (tapers to tips)
††—Small wing used for bracing
+—Fuselage folds
*†—Wings detachable
‡—Bottom wings only
Φ—Total area of all surfaces
‡‡—At full throttle
§—Light load
2—Gloucestershire
1—English Electric
‡‡—Known in U. S. as Army Transport T 2. This machine has carried a load of 2000 pounds in excess of its fully loaded rating.

Foreign Airplane

Specification Numbers	MAKE AND MODEL	CHARACTERISTICS: Class	Type	Designed For	Seating Capacity	Over-All Dimensions: Length (Ft.—Ins.)	Height (Ft.—Ins.)	Width (Ft.—Ins.)	ENGINE: Are Wings of Folding Type?	Make	Number	Total Horse Power	Type	Method of Starting	PERFORMANCE (Full Load): Speed K. Meters per Hour: Full Throttle	Altitude (Feet)	Cruising	Altitude (Feet)	Landing	Climb: Altitude (Feet)	Minutes
										BRITISH—Cont.											
22	Gloucs "Mars" 6	TrBi.	Land Mac.	FigS.	1	19–9	9–6	28–0	No.	Siddeley	1	340	A-Rad.	ProSwg.	150.0	SeL.	143.0	10000	53.0	20000	16
23	Gloucs "Mars" 7	TrBi.	Land Mac.	Pas&F	10	40–0	13–0	51–6	No.	Napier "Lion"	1	450	TRVee	Hand Mag.	120.0	SeL.	105.0	10000	55.0	10000	17
24	Gloucs "Mars" 9	TrBi.	Land Mac.	Pas&F	8	36–0	12–0	45–0	No.	Rolls Royce	1	360	W-Vee	Hand Mag.	104.0	SeL.	92.0	6000	56.0	10000	26
25	De Havilland, 9C	TrBi.	Land Mac.	Pas&F	4	30–10	11–2	42–5	No.	Siddeley "Puma"	1	230	W-Ver.	Hand Mag.	110.0	10000	95.0	5000	49.0	10000	23
26	De Havilland, 16	TrBi.	Land Mac.	Pas&F	5	.....	.....	.....	No.	Napier "Lion"	1	450	TRVee	Hand Mag.	136.0	1000	115.0	1000	.....	10000	10
27	De Havilland, 34	TrBi.	Land Mac.	Pas&F	11	41–3	13–1½	51–4	No.	Napier "Lion"	1	450	TRVee	Hand Crk.	120.0	1000	105.0	1000	61.0	5000	10
28	**De Havilland, 37	TrBi.	Land Mac.	Sport.	2	28–0	.....	37–0	No.	Rolls Royce	1	250	W-Vee	Hand Mag.	122.0	10000	.....	.....	.....	10000	17
29	**De Havilland, 27	TrBi.	Land Mac.	DayB.	3	.....	.....	.....	Yes.	Rolls Royce	1	600	W-Vee	Details wit	hheld	by Bri	tish G	overn	ment		
30	Handley-Page, T	TrBi.	Land Mac.	TorpC	1	33–0	13–0	46–0	Yes.	Napier "Lion"	1	450	TRVee	Hand Crk.	107.0	3000	98.0	3000	45.0	5000	13
31	Handley-Page, W8b	TrBi.	Land Mac.	Pas&F	14	60–9	18–0	75–0	No.	Rolls Royce	2	700	W-Vee	Hand Crk.	100.0	1000	85.0	3000	44.0	5000	13
32	Handley-Page, Tb	TrBi.	Land Mac.	Pas&F	12	38–0	13–0	42–0	No.	Napier "Lion"	1	450	TRVee	Hand Crk.	114.0	SeL.	105.0	2000	45.0	5000	12
33	Handley-Page, W8a	TrBi.	Land Mac.	Pas&F	14	60–9	18–0	75–0	Yes.	Napier "Lion"	2	900	TRVee	Hand Crk.	120.0	SeL.	109.0	2000	44.0	7000	16
34	**Handasyde, H-2	TrMo.	Land Mac.	Pas&F	7	33–3	9–0	47–0	No.	Rolls Royce	1	360	W-Vee	Hand Mag.	120.0	SeL.	T00.0	SeL.	45.0	.....	.....
35	Parnall, "Panther"	TrBi.	Land Mac.	DekF.	2	24–11	10–6	29–6	No†	B.R. 2	1	230	A-Rot.	ProSwg.	116.0	6000	90.0	2000	48.0	10000	12
36	**Supermarine, 2	TrBi.	Amphibian.	Recon.	3	32–10	14–10	48–0	No.	Napier "Lion"	1	450	TRVee	Hand Mag.	104.0	SeL.	.....	.....	45.0	.....	.....
37	**Supermarine	PuBi.	Flying B.	Rac.	1	25–0	.....	28–0	No.	Napier "Lion"	1	450	TRVee	Hand Mag.	.....	.....	.....	.....	.....	.....	.....
38	Vickers, "Viking" 4	PuBi.	Amphibian.	Pas&F	7	32–4	14–0	50–0	No.	Napier "Lion"	1	425	TRVee	Hand Crk.	105.0	800	90.0	6000	49.0	6000	8
39	Vickers, "Viking" 4	PuBi.	Amphibian.	Pas&F	7	32–4	14–0	50–0	No.	Rolls Royce	1	350	W-Vee	Hand Crk.	100.0	800	85.0	5000	47.0	6000	13
40	Vickers, "Vimy"	TrBi.	Land Mac.	Pas&F	12	43–8	15–3	68–0	No.	Napier "Lion"	2	850	TRVee	Hand Crk.	107.00	800	90.0	6000	49.0	6000	13
41	Vickers, "Vimy"	TrBi.	Land Mac.	Pas&F	12	43–8	15–3	68–0	No.	Rolls Royce	2	700	W-Vee	Hand Crk.	97.0	800	85.0	6000	49.0	6000	26
42	Vickers, "Vulcan"	TrBi.	Land Mac.	Pas&F	9	38–0	14–3	49–0	No.	Rolls Royce	1	350	W-Vee	Hand Crk.	107.0	800	90.0	6000	45.0	6000	22
43	Westland	TrBi.	Land Mac.	Pas&F	6	28–6	10–9	42–9	No.	Rolls Royce	1	275	W-Vee	Hand Mag.	110.0	2000	85.0	5000	52.0	6500	10
44	Westland	TrBi.	Land Mac.	Pas&F	6	23–6	13–0	55–6	No.	Napier "Lion"	1	450	TRVee	Hand Mag.	118.0	2000	90.0	5000	51.0	6500	8
45	Westland, 2	TrBi.	Land Mac.	Pas&F	4	28–6	10–9	38–2	No.	Hispano Suiza	1	300	W-Vee	Hand Mag.	.....	.....	90.0	1000	.....	.....	.....
										DUTCH											
1	Fokker, S11	TrBi.	Land Mac.	Train.	3	25–0	9–9	32–9	No.	Curtiss OX5	1	90	W-Vee	ProSwg.	90.0	SeL.	70.0	SeL.	35.0	10000	22
2	Fokker, C2	TrBi.	Land Mac.	Pas&F	3	23–8	9–5	34–9	No.	B.M.W. 111A	1	185	W-Ver.	Hand Mag.	117.0	SeL.	100.0	SeL.	45.0	10000	16
3	Fokker, F3	TrMo.	Land Mac.	Pas&F	6	33–10	10–6	52–9	No.	B.M.W. 111A Siddeley "Puma"	1 1	185 240	W-Ver. W-Ver.	Hand Mag. Hand Mag.	100.0	SeL.	80.0	SeL.	40.0	10000	33
4	##Fokker, F4	TrMo.	Land Mac.	Pas&F	12	49–0	11–6	81–4	No.	Liberty 12	1	400	W-Vee	Elec Mot.	102.0	SeL.	83.0	SeL.	40.0	10000	26
5	Fokker, F5	TrBi.	Land Mac.	Pas&F	10	39–0	13–0	52–6	No.	Liberty 12	1	400	W-Vee	Elec Mot.	110.0	SeL.	90.0	SeL.	40.0	10000	30
6	Fokker, FB11	PuBi.	Amphibian.	Recon.	4	39–0	10–9	60–0	No.	Napier "Lion"	1	450	TRVee	Hand Mag.	120.0	SeL.	100.0	SeL.	45.0	.....	.....
7	**Koolhoven, FK31	TrMo.	Land Mac.	FigS.	2	32–7	.....	36–2	No.	Bristol "Jupiter"	1	400	A-Rad.	Hand Mag.	158.0	SeL.	.....	.....	57.0	26250	.....

Specifications Number	MAKE AND MODEL	CHARACTERISTICS: Class	Type	Designed For	Seating Capacity	Over-All Dimensions: Length (Meters)	Height (Meters)	Width (Meters)	ENGINE: Are Wings of Folding Type?	Make	Number	Total Horse Power	Type	Method of Starting	PERFORMANCE (Full Load): Speed K. Meters per Hour: Full Throttle	Altitude (Meters)	Cruising	Altitude (Meters)	Landing	Climb: Altitude (Meters)	Minutes
										FRENCH											
1	**Bellanger	TrBi.	Flying B.	Pas&F	9	14.0	.....	20.0	Yes.	Hispano Suiza	2	300	W-Vee	CompAir.	180.0	SeL.	.....	.....	.....	.....	.....
2	**Besson	P&TQ	Flying B.	Pas&F	22	21.1	7.0	29.3	No.	Salmson	4	1000	W-Rad.	CompAir.	128.9	SeL.	.....	.....	.....	.....	.....
3	Borel, C-2	TrBi.	Land Mac.	Recon.	2	7.1	3.0	11.4	No.	Hispano Suiza	1	300	W-Vee	CompAir.	335.0	2000	.....	.....	80	.....	.....
4	Borel, CAP2	TrBi.	Land Mac.	Recon.	2	9.2	2.9	13.0	No.	Hispano Suiza	1	300	W-Vee	CompAir.	248.0	5000	.....	.....	90	.....	.....
5	Borel, CAN2	TrBi.	Land Mac.	Recon.	2	8.5	3.4	13.2	No.	Hispano Suiza	1	300	W-Vee	CompAir.	225.0	2000	.....	.....	70	.....	.....
6	Borel, "Transport"	TrMo.	Land Mac.	Pas&F	35	23.7	7.8	36.0	Yes.	Lorraine Dietrich	3	1125	W-Ver.	CompAir.	201.0	500	.....	.....	70	.....	.....
7	Breguet, Type XIV	TrBi.	Land Mac.	Recon.	2	8.9	3.1	14.8	No.	Renault CV1300	1	300	W-Vee	Hand Mag.	.....	.....	179	2000	.....	4000	20
8	Breguet, XIV T	TrBi.	Land Mac.	Recon.	6	9.0	3.3	14.8	No.	Renault CV	1	300	W-Vee	Hand Mag.	169.0	2000	.....	.....	.....	3000	25
9	Breguet, 19 A	TrBi.	Land Mac.	Recon.	2	9.2	3.3	14.8	No.	Renault 12KB	1	450	W-Vee	Hand Mag.	224.0	2000	.....	.....	.....	7000	60
10	Breguet, XIV	TrBi.	Seaplane.	Recon.	2	10.2	3.5	14.4	No.	Renault	1	300	W-Vee	Hand Mag.	160.0	SeL.	.....	.....	.....	800	6
11	**Breguet, XXI	TrBi.	Convert.	Pas&F	27	14.0	5.1	22.5	No.	Breguet	2	1000	W-Vee	.....	180.0	SeL.	.....	.....	.....	.....	.....
12	**C.A.M.S., 31B	PuBi.	Flying B.	MailC.	1	8.8	3.0	11.2	No.	Hispano Suiza	1	300	W-Vee	CompAir.	170.0	SeL.	.....	.....	.....	.....	.....
13	**Caudron, C-60	TrBi.	Land Mac.	Train.	2	7.5	2.6	10.2	No.	Clerget	1	130	A-Rot.	ProSwg.	157.0	SeL.	.....	.....	.....	1000	6
14	**Caudron, C-61	TrBi.	Seaplane.	Pas&F	8	14.4	4.0	14.1	No.	Hispano Suiza	3	520	W-Vee	CompAir.	160.0	SeL.	.....	.....	.....	.....	.....
15	Farman, "Sport"	TrBi.	Land Mac.	Sport.	2	6.2	.....	7.1	No.	LeRhone	1	60	A-Rot.	ProSwg.	140.0	SeL.	.....	.....	60	.....	.....
16	Farman, "Goliath"	TrBi.	Land Mac.	Pas&F	9	14.7	5.0	28.0	No.	Salmson	2	260	W-Rad.	ProSwg.	160.0	SeL.	.....	.....	.....	2000	.....
17	Farman, "Limousine"	TrBi.	Land Mac.	Pas&F	6	10.0	3.4	15.0	No.	Renault	1	300	W-Vee	Hand Mag.	.....	.....	.....	.....	.....	.....	.....
18	Farman, "School" F80	TrBi.	Land Mac.	Train.	2	8.2	3.3	13.0	No.	Renault	1	190	W-Vee	Hand Mag.	.....	.....	.....	.....	.....	.....	.....
19	Farman, "School" F46	PuBi.	Land Mac.	Train.	2	9.6	3.7	11.0	No.	Renault	1	80	A-Vee	ProSwg.	100.0	SeL.	.....	.....	50	2000	20
20	Farman	P&TB	Flying B.	Recon.	4	18.0	.....	33.0	No.	Panhard	3	1050	W-Vee	.....	145.0	SeL.	.....	.....	.....	2020	.....
21	Farman	PuBi.	Flying B.	Recon.	3	14.2	3.9	18.0	No.	Renault	1	450	W-Vee	Hand Mag.	170.0	SeL.	.....	.....	.....	2015	.....
22	**F.B.A.	PuBi.	Flying B.	Train.	2	8.8	3.1	13.7	No.	Clerget	1	130	A-Rot.	CompAir.	.....	.....	.....	.....	.....	.....	.....
23	**F.B.A.	PuBi.	Flying B.	Train.	2	9.1	2.1	11.0	No.	Hispano Suiza	1	140	W-Vee	Hand Crk.	130.0	10	.....	.....	85	2000	5
24	Hanriot, DH 14	TrBi.	Land Mac.	Sport.	2	7.2	3.0	10.4	No.	LeRhone	1	80	A-Rot.	ProSwg.	116.5	2000	.....	.....	70	2000	12
25	Hanriot, HD2	TrMo.	Land Mac.	FigS.	1	7.0	2.5	8.5	No.	Clerget	1	130	A-Rot.	ProSwg.	179.0	3000	.....	.....	.....	2000	.....
26	Hanriot, 19	TrBi.	Land Mac.	Sport.	2	7.2	3.0	9.5	No.	Hispano Suiza	1	180	W-Vee	Hand Mag.	175.0	SeL.	.....	.....	45	.....	.....
27	Hanriot, HD3	TrBi.	Land Mac.	Recon.	2	6.9	3.0	9.1	No.	Salmson	1	250	W-Rad.	Hand Mag.	203.0	3000	.....	.....	.....	4000	20
28	Hanriot, 24	TrBi.	Land Mac.	Pas&F	3	9.6	3.5	13.1	No.	Lorraine	1	370	.....	Hand Mag.	190.0	SeL.	.....	.....	.....	.....	.....
29	**Latecoere	P&TB	Land Mac.	DayB.	5	8.2	9.0	28.0	No.	Salmson	4	1060	W-Rad.	.....	82.6	4000	.....	.....	.....	.....	.....
30	**Levasseur	TrBi.	Land Mac.	TorpC	1	10.6	.....	5.5	Yes.	Renault	1	600	W-Vee	.....	160.0	SeL.	.....	.....	85	.....	.....
31	**Liore & Oliver, 13	TrBi.	Flying B.	Pas&F	8	11.5	3.7	16.0	No.	Hispano Suiza	2	500	W-Vee	CompAir.	.....	.....	.....	.....	.....	.....	.....

For abbreviations, see pages 454 and 455.

Specifications (Continued)

GENERAL DIMENSIONS

Service or Ceiling Height (Feet)	Endurance at Cruising Speed (Hrs.)	Span Main Wings: Upper (Ft.—In.)	Span Main Wings: Lower (Ft.—In.)	Chord Main Wings: Upper (Ft.—In.)	Chord Main Wings: Lower (Ft.—In.)	Angle of Incidence: Upper (Degrees)	Angle of Incidence: Lower (Degrees)	Total Areas in Sq. Feet: Main Wings	Total Areas in Sq. Feet: Horizontal Tail Surfaces	Total Areas in Sq. Feet: Vertical Tail Surfaces	Gap (Ft.—In.)	Stagger (In.)	Dihedral (Degrees)	Sweepback (Degrees)	Factor of Safety	Weight in Pounds: Empty	Weight in Pounds: Loaded	Weight in Pounds: Useful Load	Weight in Pounds: Useful % of Total Load	Weight in Pounds: Weight Per Horsepower	Weight in Pounds: Weight Per Sq. Feet	Fuel Consumption per Hour at Cruising Speed (gals.): Gas	Fuel Consumption per Hour at Cruising Speed (gals.): Oil	Are Control Surfaces Balanced?	Specification Number
BRITISH—Cont.																									
28000	2	28-0	28-0	5-3	5-3	3	3	270.0	28.0	10.5	4-6	20	4	0	7.0	1630	2360	400	17.0	7.0	9.3	20.0	1.0	No....	22
17000	4	51-6	42-0	7-0	6-0	2	2	534.0	75.0	21.0	7-2	5	3	0	5.0	3750	6820	1920	28.0	15.1	12.7	25.0	1.0	Yes...	23
14000	4½	45-0	33-0	6-2	5-2	2	2	415.0	54.0	17.0	7-2	5	3	0	5.0	3137	5620	1600	28.0	15.5	13.3	18.0	1.0	Yes...	24
13500	4½	42-5	42-5	5-6	5-6	3	3	434.0	62.0	19.1	5-6	12	3	2½	.....	2400	3900	700	.....	17.0	9.0	13.0	1.0	Rud..	25
21000	4															3155	4750							Rud..	26
12000	3½	51-4	51-4	5-9	5-9	2	2	550.0	76.0	26.3	6-9¼	8	3	0	.....	4590	7200	1800	25.0	16.0	13.0	23.0	1.4	Rud..	27
21000		37-0	37-0	5-9	5-9	.....	.....	398.0	.....	.....	.....	.....	‡	.....	.....	2118	3318	.....	.....	12.3	8.5	.....	.....	Rud..	28
																								R&E..	29
11000	3½	46-0	46-0	6-9	6-9	6	6	580.0	52.0	28.0	6-9	6	3½	0	6.0	3655	6490	2835	43.5	14.4	9.0	22.9	1.0	Yes...	30
9000	4½	75-0	75-0	10-0	10-0	4	4	1458.0	163.0	67.0	10-0	0	4	0	5.0	7209	12500	5291	42.5	17.1	8.5	38.0	2.0	Yes...	31
11000	4	42-0	42-0	6-9	6-9	6	6	580.0	52.0	28.0	6-9	6	3½	0	6.0	3850	6750	2900	43.5	15.0	11.6	22.9	1.0	Yes...	32
14000	3½	75-0	75-0	10-0	10-0	4	4	1458.0	163.0	67.0	10-0	0	4	0	5.0	7209	12500	5291	42.5	14.0	8.6	46.0	3.0	Yes...	33
		47-0	None...	.....	None...	.....	0	.....	.....	.....	None...	0	.....	.....	.....	.....	4500	1200	.....	12.5	11.2	.....	.....	A&R..	34
	5½	29-6	29-6	6-3	6-3	2	2	336.0	38.0	15.0	6-3	19	2	0	6.0	1451	2555	1004	43.2	11.1	7.6	10.7	2.0	Ele...	35
	5‡‡	48-0	48-0	7-0	7-0	3	3	644.0	.....	.....	.....	.....	3‡	0	.....	.....	.....	1790	.....	.....	.....	.....	.....	.....	36
		28-0	28-0										‡‡											No....	37
15500	4	50-0	50-0	7-1	7-1	6	6	635.0	65.5	25.3	7-7	0	5‡	0	4.0	3810	6000	2190	36.5	14.1	9.4	20.0	1.0	Rud..	38
14000	4½	50-0	50-0	7-1	7-1	6	6	635.0	65.5	25.3	7-7	0	5‡	0	4.0	3835	5600	1765	31.5	16.0	8.8	19.0	1.0	Rud..	39
12500	4	68-0	68-0	10-6	10-6	3½	3½	1335.0	177.0	59.2	10-0	0	3‡	0	4.0	7655	12500	4845	38.8	14.7	9.3	40.0	2.0	A&R..	40
10500	4½	68-0	68-0	10-6	10-6	3½	3½	1335.0	177.0	45.4	10-0	0	3	0	4.0	7575	12500	4925	39.4	17.0	9.4	38.0	2.0	A&R..	41
10500	3½	49-0	49-0	9-3	9-3	3	3	834.0	80.0	23.6	8-2	0	3‡	0	3.8	4395	6750	2355	34.9	19.2	8.1	20.0	1.0	A&R..	42
15000	4½	42-9	42-9	6-3	6-3	2	2	500.0	54.0	17.3	6-0	12	2½	0	5.0	2690	4250	1040	24.5	15.4	8.5	13.5	.85	Rud..	43
17000	5½	55-6	55-6	7-3	7-3	2¾	2¾	730.0	70.0	26.5	7-0	9	2½	0	5.0	4000	6000	1030	17.2	13.3	8.2	17.0	1.0	A&R.	44
	4½	38-2	38-2	6-3	6-3	2	2	435.0	54.1	17.3	6-0	12	2½	0	.....	.....	3900	740	.....	.....	9.0	.....	.....	Rud..	45
DUTCH																									
	4	32-9	30-0	5-3	3-11	0	1	280.0	.....	.....	5-4	26	0	0	8	1350	2050	700	34.0	22.8	7.3	7.0	.5	A&R..	1
25000	4½	34-9	30-0	5-3	4-0	0	1	300.0	30.0	9.3	4-9	26	0	0	8	1820	2625	800	30.0	14.2	8.8	9.5	.7	Yes..	2
16000	5½	52-9	None...	Var.....	None....	0	0	452.0	.....	.....	None...	0	0	0	9	2640	4200	1650	37.0	22.6	9.3	9.5	.7	Yes..	3
13000	5½	76-6	None...	Var.....	None....	0	0	940.0	.....	.....	None...	0	0	0	8½	5100	8700	3600	41.5	21.0	9.3	24.0	1.5	Yes..	4
16000	5½	49-0	44-6	9-10	6-6	0	½	740.0	0	0	7-10	12	1‡	0	7	4260	6960	2700	39.0	17.0	9.4	24.0	1.5	Yes..	5
	5¼	57-0	35-0	8-0	6-0	1	1	640.0	.....	.....	6-0	66	2	10	7½	4000	5760	1760	30.0	12.8	9.0	25.0	1.5	Yes..	6
26250	.....	36-0	None....	7-10	None....	.....	0	296.0	.....	.....	None....	0	0	0	.....	1800	3300	1500	45.0	8.2	11.0	.....	.....	Yes..	7

GENERAL DIMENSIONS

Service or Ceiling Height (Meters)	Endurance at Cruising Speed (Hrs.)	Span Main Wings: Upper (Meters)	Span Main Wings: Lower (Meters)	Chord Main Wings: Upper (Meters)	Chord Main Wings: Lower (Meters)	Angle of Incidence: Upper (Degrees)	Angle of Incidence: Lower (Degrees)	Total Areas in Sq. Meters: Main Wings	Total Areas in Sq. Meters: Horizontal Tail Surfaces	Total Areas in Sq. Meters: Vertical Tail Surfaces	Gap (Meters)	Stagger (Meters)	Dihedral (Degrees)	Sweepback (Degrees)	Factor of Safety	Weight in Kilos: Empty	Weight in Kilos: Loaded	Weight in Kilos: Useful Load	Weight in Kilos: Useful % of Total Load	Weight in Kilos: Weight Per Horsepower	Weight in Kilos: Weight Per Sq. Meters	Fuel Consumption per Hour at Cruising Speed: Gas (L)	Fuel Consumption per Hour at Cruising Speed: Oil (L)	Are Control Surfaces Balanced?	Specifications Number
FRENCH																									
	6							70.0								2000	3500							No....	1
	6	29.3	29.3	2.08	2.08			251.6	8.0	5.0			0‡	0										No....	2
8000	2‡‡‡	11.4	11.4	1.6	1.6	1½	1½	33.0	2.5	1.5	1.5	30	2	0	7.5	805.0	1335.0	520.0	38.5	4.4	40.0			No....	3
10000	4‡‡	13.0	13.0	1.9	1.2	1½	¾	39.0	2.3	1.4	1.5	74	2	4	10.0	1000.0	1750.0	750.0	43.0	5.8	44.8			No....	4
7700	5‡‡	13.2	9.0	2.1	.9	1	0	34.0	4.0	1.8	1.2	32	2	0	10.0	940.0	1650	710	43.0	5.5	48.5			E&A..	5
5800	0‡‡	.....	None...	.....	None...	0	0	240.0	40.0	8.0	None...	0	1	0	10.0	5000	12000	7000	58.0	10.3	50.0			E&A..	6
	4½	14.8	13.4	2.0	2.0			49.2									1700	563			84.0				7
	4½	14.8	14.4					51.2								1112	2112	635						No....	8
7400	2½	14.8	9.5					45.0								1155	1905	750						Rud..	9
	4½	14.4	12.4					49.0					0		0	1280	1640	360						No....	10
4500	.....	25.0	23.6					140.0								3147	2397	2500		6.4	45.7			A&R..	11
4000	.....	11.2	11.2					30.0								798	1420	416						No....	12
	.....	10.2	9.5	1.4	1.4			26.2				0	0	0		505	862	160						No....	13
1000	3¼	14.1	14.1					140.0					0‡			220	3480	840		8.3	32.5			Ail....	14
	.....		7.1	7.1														200						No....	15
	.....	28.0	28.0	3.1	3.1			165.2	10.4		3.0	0	0	0		2000	2640	640						A&R..	16
2000	.....	15.0	13.7	1.8	1.8			51.7	1.8	1.9		0	0	0		1000	1720	490						No....	17
	.....	13.0	13.0	1.8	1.8			46.5								770	1100	170						No....	18
	3	17.6	11.0	2.1	2.1			52.2			2.0	0	0	0			1000	210						All....	19
2000	.....	33.0	33.0					200.0			3.6	0	0‡	0		2500	4500	2750						All....	20
2020	.....	18.0	14.0					82.0				0	0‡	0		1900	2900	1000		6.4	35.3			All....	21
2015	2200	13.7	10.7	1.6	1.3		5	34.9									995							No....	22
3200	3½	11.0	10.6	1.9	1.7			33.0	4.7	1.4			10‡			1040	1250	270		8.9	37.8			Rud..	23
4400	2½	10.4	10.4	1.7	1.7			33.4	2.2	1.1	1.6					516	813	197		9.6	22.5				24
	2	8.5	1.2††	1.2	1.1			18.4	1.5	.4	1.2					540	740	200		5.0	40.2				25
5400	2½	9.5	9.5	1.4	1.4			27.9	2.2	1.1	1.6					581	978	397		5.4	35.1				26
5700	.....	9.1	9.1	1.5	1.5			25.5	1.7	.7	1.5					723	1150	433		4.5	46.5				27
5000	4	13.1	13.1	1.9	1.9			44.4	2.7	1.8	2.1					1570	2820	1250		7.6	61.0				28
	.....	28.0						120.8				0	0	0			5261		22.8	4.3	40.4	30.0	4.0	Yes...	29
	.....	15.2	15.2					72.0								2150	3300	1150						Rud..	30
	.....	16.0	16.0	1.9	1.9			58.2	5.0	3.3		0	3‡	0		1600	2440	540		6.0	45.5				31

Foreign Airplane

Specifications Number	MAKE AND MODEL	CHARACTERISTICS								ENGINE					PERFORMANCE (Full Load)						
						Over-All Dimensions									Speed K. Meters per Hour					Climb	
		Class	Type	Designed For	Seating Capacity	Length (Meters)	Height (Meters)	Width (Meters)	Are Wings of Folding Type?	Make	Number	Total Horse Power	Type	Method of Starting	Full Throttle	Altitude (Meters)	Cruising	Altitude (Meters)	Landing	Altitude (Meters)	Minutes
	FRENCH—Cont.																				
32	Morane Saulnier, A1	TrMo.	Land Mac.	FigS.	1	5.8	2.4	8.8	No.	LeRhone	1	120	A-Rot.	Hand Mag.			198	SeL.	90	3000	8½
33	Morane Saulnier, AR	TrMo.	Land Mac.	Train.	2	6.7	3.4	10.5	No.	LeRhone	1	80	A-Rot.	Hand Mag.			150	SeL.	56	3000	15
34	Morane Saulnier, AT	TrMo.	Land Mac.	Expl.	2	6.7	2.6	11.0	No.	LeRhone	1	120	A-Rot.	Hand Mag.			157	SeL.	70	3000	18
35	Nieuport-Delage, 38	TrBi.	Land Mac.	Pas&F	2	8.0	3.5	11.1	No.	Renault	1	190	W-Vee.	Hand Mag.	180.0	SeL.	95	S.L.	70		
36	Nieuport-Delage, 29 C1	TrBi.	Land Mac.	FigS.	1	6.5	2.5	8.0	No.	Hispano Suiza	1	300	W-Vee.	CompAir.						6200	
37	Nieuport-Delage 3761	TrBi.	Land Mac.	FigS.	1	7.1	2.9	11.8	No.	Hispano Suiza	1	320	W-Vee.	CompAir.							
38	Nieuport-Delage, 39	PuBi.	Land Mac.	Pas&F	5	12.1	4.8	20.0	No.	Darracq-Costelem	1	420	W-Vee.								
39	Potez, VIII	TrBi.	Convert.	Train.	2	5.1	2.4	8.0	No.	Anzani	1	60	A-Rad.	CompAir.	140.0	SeL.			40	2000	16
40	Potez, X	TrBi.	Land Mac.	Pas&F	12	12.9	4.1	18.4	No.	Hispano Suiza	3	540	W-Vee.	CompAir.	165.0	SeL.			70	5000	50
41	Potez, XV	TrBi.	Land Mac.	Pas&F	2	8.6	3.1	12.0	No.	Lorraine-Dietrich	1	375	W-Vee.	CompAir.	210.0	SeL.			80	5000	28
42	**Schneider	P&TB	Land Mac.	NigB.		19.9	6.1	30.0	No.	Lorraine-Dietrich	4	1600	W-Vee.		160.0	SeL.			80		
43	Spad, 54	TrBi.	Land Mac.	Train.	2	7.2	2.5	8.9	No.	LeRhone	1	80	A-Rot.	ProSwg.	120.0	SeL.					
44	Spad, XIII	TrBi.	Land Mac.	FigS.	1	6.2	2.3	8.0	No.	Hispano Suiza	1	120	W-Vee.	Hand Mag.	215.0	SeL.					
45	Spad, 42	TrBi.	Land Mac.	Recon.	2	6.7	2.6	8.6	No.	Hispano Suiza	1	180	W-Vee.	Hand Mag.	200.0	SeL.					
46	Spad, 46	TrBi.	Land Mac.	Pas&F	6	9.0	3.5	12.6	No.	Lorraine-Dietrich	1	370	W-Vee.	Hand Mag.	210.0	SeL.					
47	Spad, 45 (Bleriot)	P&TB	Land Mac.	Pas&F	20	15.3	5.8	21.2	No.	Hispano Suiza	4	1100	W-Vee.	Comp-Air.	200.0	SeL.					
48	Wibault, 3	TrMo.	Land Mac.	FigS.	1	8.6	3.0	11.6	No.	Hispano Suiza	1	300	W-Vee.	CompAir.	228.0	4000			100	6000	16½
49	Wibault, 2	TrBi.	Land Mac.	NigB.	3	19.7	5.0	16.9	No.	Renault	1	580	W-Vee.	Elec Mot.	182.0	1000			82	2000	11
	GERMAN																				
1	Albatross, L 58	TrMo.	Land Mac.	Pas&F	8	10.0	3.6	18.0	No.	Rolls Royce	1	275	W-Vee.	Hand Mag.	170.0	1000	150.0	7000	70.0	2000	30
2	**Dietrich	TrBi.	Land Mac.	Sport.	2	5.2	2.4	6.2	No.	Gnome	1	70	A-Rot.	ProSwg.	140.0	SeL.			60.0	1000	7
3	**Dobkevicus	TrMo.	Land Mac.	Sport.	1	4.5	1.5	7.9	No.	Haacke	1	30	A-Rad.	ProSwg.	175.0	SeL.				1000	6
4	**Entler	TrBi.	Land Mac.	Sport.	2	5.1	2.3	7.0	No.	Haacke	1	30	A-Rad.	ProSwg.	130.0	SeL.	104.0	SeL.			
5	Junkers, 13	TrMo.	Land Mac.	Pas&F	6	9.6	3.1	17.8	No§†		1	185	W-Ver.	Hand Mag.	170.0	2000	140.0	2000	90.0		
6	Junkers, J 13	TrMo.	Seaplane.	Pas&F	6	10.3	3.4	7.8	No§†		1	185	W-Ver.	Hand Mag.	165.0	2000	130.0	2000	70.0		
7	Junkers, J 16	TrMo.	Land Mac.	Pas&F	3	7.8	2.5	11.0	No§†	Haacke	1	80	A-Rad.	ProSwg.	135.0	SeL.	110.0	SeL.	70.0		
8	L. F. G., Shela	TrBi.	Seaplane.	Pas&F	5	10.9	3.8	17.5	Yes	Benz	1	220	W-Ver.	Hand Mag.	140.0	SeL.	130.0	SeL.	70.0	1000	12
9	L. F. G., Lapnitz	PuBi.	Flying B.	Pas&F	4	10.2	3.3	6.7	Yes	Benz	1	150	W-Ver.	Hand Mag.	12 .0	SeL.	120.0	SeL.	70 0	1000	15
10	L. F. G., Arhona	TrMo.	Seaplane.	Pas&F	6	9.4	3.4	14.4	Yes	Benz	1	185	W-Ver.	Hand Mag.	170.0	SeL.	150.0	SeL.	80.0	1000	7
11	L. F. G., Sieg	TrMo.	Seaplane.	Pas&F	2	9.3	3.1	13.5	Yes	B.M.W.	1	185	W-Ver.	Hand Mag.	165.0	SeL.	150.0	SeL.	70.0	1000	6
12	L. F. G., Ankarn	TrMo.	Land Mac.	Pas&F	3	5.8	2.1	10.1	Yes	Haacke	1	50	A-Rad.	ProSwg.	150.0	SeL.	140.0	SeL.	75.0	1000	10
13	L. F. G., Dominon	TrMo.	Land Mac.	Pas&F	6	8.8	3.0	15.4	Yes	B.M.W.	1	185	W-Ver.	Hand Mag.	170.0	SeL.	160.0	SeL.	80.0	1000	8
14	L. F. G., Danholm	TrMo.	Seaplane.	Pas&F	3	6.7	2.4	9.6	Yes	Haacke	1	50	A-Rad.	Hand Mag.	130.0	SeL.	125.0	SeL.	70.0	1000	15
15	L. F. G., Gohron	TrMo.	Seaplane.	Pas&F	3	7.5	2.6	12.0		Haacke	1	90	A-Rad.	ProSwg.	140.0	SeL.	135.0	SeL.	70.0	1000	11
16	L. V. G., VIII	TrBi.	Land Mac.	Train.	2	7.8	2.9	12.5	No.	Mercedes	1	120	W-Ver.	Hand Mag.	120.0	SeL.			60.0	3000	28
17	L. V. G., KI	TrBi.	Land Mac.	Rac.	1	7.4	2.8	13.0	No.	Benz	1	200	W-Ver.	Hand Mag.	145.0	SeL.			65.0	3000	23
18	L. V. G., PII	TrBi.	Land Mac.	Pas&F	3	7.0	2.3	13.0	No.	Benz	1	200	W-Ver.	Hand Mag.	165.0	SeL.			65.0	3000	15
19	L. V. G., GIII	TrTi.	Land Mac.	Pas&F	4	10.2	3.0	24.5	No.	Maybach	2	520	W-Ver.		130.0	SeL.			60.0	3000	20
20	Rumpler, 5A2	TrBi.	Land Mac.	MailC.	3	7.8	3.1	12.1	No.	Mercedes	1	160	W-Ver.	Hand Mag.	152.0	2000	130.0	2000	55.0	5000	70
21	Rumpler, 8C12	TrBi.	Land Mac.	MailC.	3	8.4	3.2	12.6	No.	Maybach	1	240	W-Ver.	Hand Mag.	175.0	400	150.0	2000	65.0	6500	75
22	Rumpler, 8D1	TrBi.	Land Mac.	Rac.	1	5.7	2.5	8.4	No.	Mercedes	1	170	W-Ver.	Hand Mag.	180.0	5000	155.0	2000	70.0	8000	53½
23	Rumpler, 6B1	TrBi.	Seaplane.	Pas&F	1	7.8	3.0	12.1	No.	Mercedes	1	160	W-Ver.	Hand Mag.	150.0	2000	130.0	2000	55.0	5000	65
24	Slabating	TrMo.	Land Mac.	Pas&F	8	8.9	3.2	16.0	No§†	Maybach	1	260	W-Ver.	Hand Mag.	160.0	SeL.	140.0	SeL.	50.0	4000	50
	ITALIAN																				
1	**Bastianelli	P&TB	Flying B.	Pas&F		16.5	12.5	30.0	No.	Isotta Fraschini	4	1080	W-Ver.				160.0	SeL.			
2	Caproni	TrMo.	Land Mac.	FigS.	1	6.8	2.4	10.0	No.	Hispano Suiza	1	300	W-Vee.	Hand Mag.	277.0	SeL.	267.0	4000	105.0	5000	12
3	Caproni	P&TP	Land Mac.	Pas&F	10	10.8	4.2	20.7	No.	S.P.A.	3	600		Hand Mag.	170.0	SeL.	160.0	2000	80.0	2000	11
4	Caproni	P&TB	Seaplane.	Pas&F	10	11.2	4.7	20.7	No.	Isotta Fraschini	3	660	W-Ver.	Elec Mot.	160.0	SeL.	150.0	2000	82.0	2000	12½
5	Caproni	P&TT	Convert.	Pas&F	19	13.0	6.3	29.9	No.	Liberty 12	3	1080	W-Vee.	Hand Mag.	155.0	SeL.	165.0	2000	75.0	3000	23
6	FIAT, A-L	TrBi.	Land Mac.	Pas&F	6	8.9	3.2	14.7	No.	FIAT A12	1	300	W-Ver.	ProSwg.	200.0	200	180.0	2000	100.0	2000	15
7	FIAT, B-R	TrBi.	Land Mac.	DayB.	2	10.1	3.8	15.5	No.	FIAT A-14	1	700	W-Vee.	CompAir.	250.0	200	225.0	2500	105.0	2000	7½
8	FIAT, C.R	TrBi.	Land Mac.	FigS.	1			8.9	No.	Hispano Suiza	1	300	W-Vee.	ProSwg.	280.0	200	255.0	3500	105.0	5000	14
9	FIAT, R	TrBi.	Land Mac.	Expl.	1	7.7	3.1	10.6	No.	FIAT A-14	1	700	W-Vee.	CompAir.	325.0	200	300.0		125.0		
10	**Macchi, M 17	PuBi.	Flying B.	Rac.	1				No.	Isotta Fraschini	1	250	W-Ver.								
11	**Savoia, S 23	PuBi.	Flying B.	Train.	2	10.0	3.2	14.8	No.	Isotta Fraschini	1	160	W-Ver.	Hand Crk.	151.0	SeL.			78.0		
12	**Savoia, S 51	PuBi.	Flying B.	Rac.	1				No.	Hispano Suiza	1	300	W-Vee.								
	JAPANESE																				
1	**Akita	TrBi.	Land Mac.	FigS.	1	7.7	2.8		No.	Maybach	1	220	W-Ver.	Hand Mag.	180.0	SeL.					
2	Itoh, 22	TrBi.	Land Mac.	Recon.	2	8.4	2.8	12.9	No.	Liberty 12A	1	400	W-Vee.	Hand Mag.	140.0	SeL.			60.0	1000	3
3	**Kawanishi	TrBi.	Land Mac.	Recon.	3	7.5	3.2	11.0	No.	Maybach	1	300	W-Ver.	Hand Mag.	140.0	SeL.					
4	**Mitsubishi	TrBi.	Land Mac.	FigS.	1	7.2	2.9	9.7	No.	Hispano Suiza	1	300	W-Vee.	Hand Mag.							
5	**War Department	TrBi.	Land Mac.	Train.	2	8.3		10.8	No.	Hall Scott	1	150	W-Ver.	Hand Mag.	129.0	SeL.					
	CZECHO-SLOVAKIA																				
1	Aero, OA	TrBi.	Land Mac.	Train.	2	8.5	3.0	17.7	No.	Mercedes	1	100	W-Ver.	Hand Mag.	100.0	1500	90.0	15000	50.0	1000	10
2	Aero, O2	PuBi.	Land Mac.	Rac.	1	5.4	2.7	7.7	No.	Hispano Suiza	1	220	W-Vee.	Hand Mag.	230.0	150	215.0	1000	85.0	5000	20
3	Aero, O3	PuBi.	Land Mac.	FigS.	1			8.6	No.	Hispano Suiza	1	220	W-Vee.	Hand Mag.	270.0	SeL.	180.0	1000	70.0	5000	14
4	Aero, O4	PuBi.	Land Mac.	Rac.	1	5.5	2.6	7.7	No.	B.M.W.	1	185	W-Ver.	Hand Mag.	270.0	SeL.	225.0	1000	85.0	5000	14
5	Aero, 10	TrBi.	Land Mac.	Pas&F	5	10.1	3.6	14.4	No.	Maybach	1	260	W-Ver.	Hand Mag.	160.0	SeL.	175.0	200	70.0	5000	65
6	Aero, 14	TrBi.	Land Mac.	DayB.	2	8.4	3.1	12.2	No.	Hiero	1	230	W-Ver.	Hand-Mag.	165.0	SeL.	170.0	1000	60.0	5000	50
	SWISS																				
6	**Dornier	P&TM	Flying B.	Pas&F		16.1	4.3	24.5	No.	Napier "Lion"	2	900	TRVee.		2000.0	SeL.					

For abbreviations, see pages 454 and 455.

Specifications (Continued)

Service or Ceiling Height (Meters)	Endurance at Cruising Speed (Hrs.)	GENERAL DIMENSIONS: Span Main Wings Upper (Meters)	Span Main Wings Lower (Meters)	Chord Main Wings Upper (Meters)	Chord Main Wings Lower (Meters)	Angle of Incidence Upper (Degrees)	Angle of Incidence Lower (Degrees)	Total Areas in Sq. Meters: Main Wings	Horizontal Tail Surfaces	Vertical Tail Surfaces	Gap (Meters)	Stagger (Meters)	Dihedral (Degrees)	Sweepback (Degrees)	Factor of Safety	Weight in Kilos: Empty	Loaded	Useful Load	Useful % of Total Load	Weight Per Horsepower	Weight Per Sq. Meters	Fuel Consumption per Hour at Cruising Speed: Gas (L)	Oil (L)	Are Control Surfaces Balanced?	Specifications Number
FRENCH—Cont.																									
.....	3	8.8	None....	1.6	None....	1	0	13.0	1.5	.7	None...	0	10	0	16.0	405	525	120	.....	5.3	40.8	.....	.....	No...	32
.....	3	10.5	None...	1.8	None...	2	0	18.0	2.2	.9	None....	0	0	0	11.0	420	650	230	35.5	8.1	36.0	22.5	4.0	No...	33
.....	3	11.0	None....	.....	None....	2	0	20.5	2.2	1.0	None....	0	0	0	11.0	624	854	230	27.0	7.1	41.5	30.0	4.5	No....	34
6200	.....	11.1	11.1	1.8	1.8	.....	.....	37.2	3.8	1.6	2.0	.....	.....	.....	.....	750	1250	350	.....	6.2	33.1	.....	.....	.....	35
.....	2½	8.0	8.0	1.5	1.5	.....	.....	29.2	2.2	.5	.....	.....	.....	.....	.....	561	1100	167	.....	3.6	52.5	.....	.....	.....	36
.....	.....	11.8	.....	2.0	2.0	.....	.....	26.2	4.2	1.2	.....	.....	.....	.....	.....	980	1380	220	.....	4.4	53.0	.....	.....	.....	37
.....	.....	20.0	10.0	3.3	2.5	.....	.....	78.2	12.2	2.2	.....	.....	.....	.....	.....	2150	3000	520	.....	7.0	38.5	.....	.....	.....	38
4500	3	.....	.....	.....	.....	.....	.....	20.0	2.2	.7	.....	.....	0	.....	9.0	240	490	490	.....	8.0	24.3	16.0	4.0	No..	39
5000	6	.....	.....	.....	.....	.....	.....	95.0	11.0	3.9	5.0	0	.....	0	.....	2100	3640	1000	.....	67.0	38.0	115.0	11.0	R&E..	40
6 00	4½	.....	.....	.....	.....	.....	.....	45.0	3.6	2.9	.....	0	0	0	.....	1100	1725	400	.....	4.5	39.0	80.0	8.0	Yes..	41
4500	5	30.0	30.0	3.8	3.8	.....	.....	220.0	.....	.....	3.9	0	.....	.....	.....	6500	10020	1820	.....	.....	.....	.....	.....	E&R.	42
.....	3	8.9	8.2	.....	.....	.....	.....	23.5	.....	.....	.....	.....	0	0	10.0	520	575	237	.....	.....	.....	.....	.....	No..	43
.....	2	8.0	8.0	.....	.....	.....	.....	20.2	.....	.....	.....	.....	.....	.....	.....	565	820	145	.....	.....	.....	.....	.....	No..	44
.....	2	8.6	.....	.....	.....	.....	.....	23.0	.....	.....	.....	.....	.....	.....	.....	550	800	165	.....	.....	.....	.....	.....	No..	45
.....	4	12.6	12.6	.....	.....	.....	.....	47.0	.....	.....	.....	.....	0‡	.....	.....	1300	2300	665	.....	.....	.....	.....	.....	Rud..	46
.....	.....	21.8	21.8	.....	.....	.....	.....	145.0	.....	.....	.....	.....	1.0	.....	.....	3495	6985	2480	.....	6.3	44.4	.....	.....	Ele..	47
8500	4	11.6	None...	10.0	None...	.....	0	25.0	.....	.....	None....	0	0	0	19.0	.....	1460	.....	.....	4.8	58.0	80.0	4.0	No...	48
4900	5	13.3	16.9	3.1	3.1	1.0	1.0	100.0	7.0	4.0	2.9	0	0	0	10.0	2300	4100	100	23.8	7.1	41.0	200.0	10.0	Rud..	49
GERMAN																									
3000	4½	18.0	None...	3.0	None...	2	0	47.5	5.2	2.2	None....	0	0	0	5	1350	2230	880	39.0	8.1	46.8	65.0	4.0	Yes...	1
3400	.....	6.2	5.2	1.4	1.2	.....	.....	14.0	.....	.....	.....	.....	.....	.....	0	.....	350	550	.....	.....	8.0	39.3	.....	Rud..	2
.....	.....	7.9	None...	.....	None..	.....	.....	7.5	.7	.....	.....	.....	.....	.....	.....	167	295	.....	.....	8.7	39.0	.....	.....	No..	3
.....	10	7.0	6.0	1.2	1.0	.....	.....	12.0	.....	.....	.....	.....	.....	.....	.....	170	225	55	.....	44.0	.....	.....	.....	No..	4
4000	5	None...	17.8	None....	3.0	0	.....	40.0	2.8	.5	None....	0	6	0	6.0	1150	1800	600	35.0	8.0	48.0	180.0	12.0	No...	5
4000	5	None...	17.8	None....	3.0	0	.....	40.0	2.8	.5	None....	0	6	0	6.0	1290	1900	600	32.4	10.0	46.0	12.0	180.0	No..	6
4000	.....	None....	11.0	None....	.....	.....	.....	17.0	1.4	.3	None...	0	0	0	6.0	460	720	260	37.6	9.0	42.0	35.0	5.0	No....	7
.....	.....	17.5	17.5	2.5	2.5	.....	.....	82.0	.....	.....	.....	.....	.....	.....	8.0	1460	2128	660	.....	9.7	26.0	.....	.....	.....	8
.....	.....	16.4	16.2	1.8	1.8	.....	.....	56.5	.....	.....	.....	.....	.....	.....	8.0	1120	1690	570	.....	11.2	30.0	.....	.....	.....	9
.....	.....	14.4	None....	4.7	None....	0	.....	36.0	.....	.....	None..	0	.....	.....	6.5	1050	1680	630	.....	9.1	46.7	.....	.....	.....	10
.....	.....	13.5	None...	2.6	None....	0	.....	32.0	.....	.....	None..	0	.....	.....	6.7	1000	1470	470	.....	7.9	46.0	.....	.....	.....	11
.....	.....	10.1	None...	1.8	None....	0	.....	16.0	.....	.....	None..	0	.....	.....	7.0	290	590	300	11.8	37.0	.....	.....	.....	.....	12
.....	.....	15.4	None...	2.6	None....	0	.....	36.0	.....	.....	None..	0	.....	.....	7.0	1000	1700	700	.....	9.5	49.2	.....	.....	.....	13
.....	.....	9.6	None....	1.8	None....	0	.....	15.0	.....	.....	None..	0	.....	.....	7.0	330	600	270	12.0	40.0	.....	.....	.....	.....	14
.....	.....	12.0	None....	2.2	None....	0	.....	24.0	.....	.....	None..	0	.....	.....	7.0	650	950	300	.....	10.6	39.6	.....	.....	.....	15
.....	2½	2.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	0	.....	710	1020	310	.....	.....	.....	45.0	13.0	Rud..	16
.....	12	13.0	13.0	.....	.....	.....	.....	.....	.....	.....	.....	0	0	0	.....	720	1640	640	.....	.....	.....	73.0	13.0	Ele..	17
.....	4	13.0	13.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....	480	1380	.....	.....	.....	73.0	13.0	No..	18
.....	5½	24.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	0	.....	2960	4100	1140	.....	.....	.....	180.0	17.0	No..	19
610	4½	6.1	5.1	1.7	1.7	5¾	5¾	835.7	4.6	1.1	1.8	0	20‡	40‡	6.0	703	1333	510	38.2	8.3	38.0	50.0	4.0	No...	20
700	5	6.3	5.6	1.7	1.2	3	3	34.8	1.1	1.8	.6	0	2½‡	30‡	6.0	1017	1630	580	35.6	6.3	47.0	75.0	5.8	No....	21
360	2½	4.2	3.4	1.3	1.1	3	4	16.0	2.0	.8	1.4	0	2½‡	30‡	6.5	590	805	190	23.6	4.7	50.5	50.0	4.0	Yes...	22
600	4½	6.1	5.1	1.8	1.8	5¾	5¾	35.7	4.6	1.1	1.8	.4	20‡	40‡	6.0	790	1140	320	28.0	7.1	32.0	50.0	4.0	No....	23
.....	.....	16.0	None..	3.0	None....	.....	.....	.....	.....	.....	0	0	0	0	.....	1330	.....	820	.....	.....	.....	50.0	3.0	No....	24
ITALIAN																									
.....	.....	30.0	30.0	.....	.....	.....	.....	206.8	.....	.....	.....	0	0	0	.....	4000	7300	2500	.....	6.7	37.5	.....	.....	A&R.	1
8900	3	10.0	None....	2.5	None..	0	0	18.7	1.4	1.5	None....	0	0	0	12.0	700	1000	300	30.0	3.3	53.0	65.0	4.0	No....	2
4500	4½	20.7	19.0	1.9	1.6	2½	2½	100 0	10.7	6.0	2.3	0	5	0	8.0	2300	4000	700	.....	6.7	40.0	110.0	7 0	Yes...	3
.....	4	20.7	19.0	1.9	1.6	2½	2½	100.0	5.7	6.0	2.3	0	5	0	8.0	2600	4100	1500	.....	6.7	41.0	120.0	8.0	Yes..	4
42 00	4	29.9	29.9	2.3	2.3	3	4	200.0	17.0	6.6	2.3	0	0	0	6.0	4300	7300	3000	.....	7.0	36.0	.....	.....	.....	5
.....	6½	14.7	12.4	2.1	2.1	3	3	56.2	3.7	1.4	1.9	0	1½	0	9.0	1550	2300	750	.....	7.7	41.0	.....	.....	Yes..	6
.....	4½	15.5	14.8	2.3	2.3	3	3	70.5	4.8	1.8	2.1	0	1¾	0	9.2	2300	3500	1200	.....	5.0	50.0	.....	.....	Yes..	7
.....	3	7.3	8.9	1.5	1.5	2¾	2¾	23.0	.....	.....	1.3	.3	1¾	0	13.0	765	1100	335	.....	3.4	48.0	.....	.....	Yes..	8
.....	1¼	10.6	10.0	1.6	1.6	¼	¼	32.5	2.3	.9	1.6	0	1¼	.....	11.0	1800	2150	350	.....	3.1	66.0	.....	.....	Yes..	9
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No....	10
.....	2	14.8	14.8	.....	.....	.....	.....	43.5	.....	.....	.....	0	0	0	.....	1161	1401	250	.....	8.7	61.0	.....	.....	No....	11
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rud..	12
JAPANESE																									
.....	.....	.....	.....	1.5	1.5	.....	.....	28.0	.....	.....	.....	.....	0	0	.....	.....	1573	.....	.....	.....	.....	.....	.....	Rud..	1
7000	5‡‡	12.3	12.3	1.5	1.5	2	2	36.3	5.1	1.4	1.5	0	1	0	7	1211	2050	839	40.9	5.1	56.4	.....	.....	All..	2
.....	.....	11.0	.....	.....	.....	.....	.....	31.0	.....	.....	.....	0	‡	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ail..	3
.....	.....	9.7	9.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	1000	.....	.....	.....	.....	.....	.....	Rud..	4
.....	.....	10.8	10.7	.....	.....	.....	.....	28.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
CZECHO-SLOVAKIA																									
3600	4	12.2	11.6	1.5	1.5	4	4	35.0	6.2	1.7	.....	.....	.....	.....	.....	680	970	260	3.6	9.4	69.5	20.0	2 0	Yes...	1
6500	2½	7.2	6.2	1.3	1.0	3	2	15.5	1.7	1.4	.....	.....	.....	.....	.....	580	880	300	2.9	4.0	56.7	50.0	5.0	Yes...	2
8500	2½	8.1	6.2	1.6	1.7	3	2	22.5	1.7	1.4	.....	.....	.....	.....	.....	700	1000	300	3.3	4.5	75.5	50.0	5.0	Yes...	3
7500	2½	7.2	6.2	1.3	1.0	3	2	15.5	1.4	1.4	.....	.....	.....	.....	.....	615	850	235	3.6	7.6	55.0	70.0	3.5	Yes...	4
6000	4½	17.3	12.5	2.0	2.0	3½	3½	52.3	6.2	1.3	.....	.....	.....	.....	.....	1700	2100	700	3.0	8.1	70.5	75.0	5.0	Yes...	5
600	4	12.2	11.7	1.8	1.8	4	3	37.2	7.9	1.3	.....	.....	.....	.....	.....	890	1360	570	2.7	5.9	37.6	50.0	7.0	Yes...	6
SWISS																									
5300	.....	24.5	None....	.....	None....	.....	0	93.5	.....	.....	None....	0	0	0	.....	3150	4850	.....	.....	.....	.....	.....	.....	.....	6

American Aircraft Engine Specifications

MAKE AND MODEL	CYLINDER DATA							RATING				CONSUMPTION			WEIGHTS IN LBS.			ELECTRICAL EQUIPMENT			INSTALLATION DIMENSIONS IN INCHES				
												PER B.H.P. HR. IN LBS.									OVERALL				
	Number	Arrangement	Cooling	Bore and Stroke (ins.)	Piston Displacement (cu ins.)	Compression Ratio	Brake M.E.P. (Lbs. Sq. Ins.)	Mfgrs. Rated H.P.	Max. B.H.P.	Crank Shaft R.P.M.	Propeller R.P.M.	Gas	Oil	Approx. Gals. (Imp.) Gas Per Hour	Engine Dry	Per B.H.P.	Carbureter Make	Ignition Make	Starter	Method of Starting	Length	Height	Width	Height Above Engine Bed	Center to Center of Engine Beds
Aeromarine.....U-873	8	Vee 60°	W.	4⅝x6½	873.6	5.5	136	250	300	1800	1800	.48	.01	21.0	499	1.66	Stromb.	Split.	Bijur.	EM. HC.	38	29	32	22	13¼
Curtiss.....OX-5	8	Vee 90°.	W.	4 x5	502.6	4.9	113	90	100	1300	1300	.50	.02	8.3	377	3.77	Zenith.	Berl.	None.	Swing.	55⅝	35½	30	17¾	12⅞
Curtiss.....C-6	6	Vertical.	W.	4½x6	572.4	5.3	129	160	178	1600	1600	.50	.03	13.6	420	2.57	Zenith.	Berks.	USL.	E.M.	57½	40¾	23	24½	15¾
Curtiss.....D-12	12	Vee 60°.	W.	4½x6	1145.4	5.3	138	375	400	1850	1850	.53	.01	34.7	671	.....	Zenith.	Split.	Bijur.	EM. HC.	56	34¾	28¼	21½	15¾
‡‡Hall-Scott.....L-4	4	Vertical.	W.	5 x7	549.7	5.2	112	....	125	1700	.....	.57	.03	12.0	380	.....	Stromb.	Delco.	.....	.....	52	41¾	22	20¾	16
‡‡Hall-Scott.....L-6	6	Vertical.	W.	5 x7	824.7	5.2	112	....	200	1700	.....	.55	.03	19.0	530	.....	Stromb.	Delco.	.....	.....	65	44	18¼	20½	16
Lawrence.....L-4	3	Radial.	Air.	4¼x5	212.7	5.0	125	60	65	1800	1800	.50	.01	.....	175	2.70	Stromb.	Split.	None.	HC	17	38*	38*	.....	.....
Lawrence.....J	9	Radial.	Air.	4½x5½	786.0	5.0	130	200	230	1800	1800	.50	.01	.....	440	1.92	Stromb.	Split.	HM.	HC	17	45½*	45½*	.....	.....
Packard.....825	8	Vee 60°.	W.	5 x5¼	825.0	5.5	125	200	230	1800	1800	.48	.03	19.0	550	.....	Zenith.	.....	Yes.	EM.	50⅞	38¾	27¾	22⅝	14½
Packard.....1237	12	Vee 60°.	W.	5 x5¼	1237.0	6.5	124	300	350	1800	1800	.51	.03	30.3	740	.....	Zenith.	.....	Yes.	E.M.	63¼	38¾	27¾	22⅝	14½
Packard.....2025	12	Vee 60°.	W.	5¾x6½	2025.0	5.5	126	550	580	1800	1800	.52	.03	55.2	1120	.....	Zenith.	.....	Yes.	E.M.	72⅝	45¼	31¾	26¼	17¾
Packard.....1551	6	Vertical.	W.	6⅝x7½	1551.0	6.5	124	300	340	1400	550	.43	.02	.....	1030	3.03	Stromb.	Delco.	No.	Gas M	66⅞	43½	32¼	31½	.....
Sturtevant.....SA	8	Vee 90°.	W.	4 x5½	553.0	5.3	107	140	....	2000	1200	.55	.04	12.5	500	3.57	Zenith.	Split.	H M.	Swing.	56	30	34	21	13¼
Sturtevant.....SA-4½	8	Vee 90°.	W.	4½x5½	700.0	6.4	113	210	....	2250	1350	.53	.04	19.5	480	2.28	Zenith.	Simms	H M.	Swing.	56	30	34	21	13¾
Union.....3-6	6	Vertical.	W.	4¾x6½	691.0	5.6	100	120	120	1375	1375	.02	.53	.....	485	4.00	Zenith.	Split.	E.M.	HC	69	40	17¾	31	16
Wright.....E-4	8	Vee 90°.	W.	4 23/32 x5 7/64	718.0	5.5	110	180	200	1800	1800	.48	.01	15.5	480	2.40	Stromb.	Split.	HM.	HC	49¼	34⅝	33 7/16	18¾	63/64
Wright.....D-1	6	Vertical.	W.	7 x8	1847.0	5.5	124	350	405	1100	1400	.47	.01	27.1	1320	3.26	Zenith.	Split.	None.	HC	73½	41¾	.....	31½	.....
Wright.....4	8	Vee 90°.	W.	5½x5 29/32	1126.0	6.1	134	375	380	2000	2000	.48	.01	29.6	600	1.60	Stromb.	Split.	HM.	HC	51	39¾	38⅝	23½	.....
Wright.....T-2	12	Vee 60°.	W.	5¾x6¼	1947.0	5.5	112	500	530	1800	1800	.49	.03	40.6	1100	2.07	Stromb.	Split.	HM.	HC	56½	40 7/16	31¾	24⅛	.....

British Aircraft Engine Specifications

MAKE AND MODEL	CYLINDER DATA							RATING				CONSUMPTION			WEIGHTS IN LBS.			ELECTRICAL EQUIPMENT			INSTALLATION DIMENSIONS IN INCHES				
												PER B.H.P. HR. IN LBS									OVERALL				
	Number	Arrangement	Cooling	Bore and Stroke (Ins.)	Piston Displacement (Cu. Ins.)	Compression Ratio	Brake M.E.P. (Lbs. Sq. Ins.)	Mfgrs. Rated H.P.	Max. B.H.P.	Crank Shaft R.P.M.	Propeller R.P.M.	Gas	Oil	Approx. Gals. (U.S.) Gas Per Hour	Engine Dry	Per B.H.P.	Carbureter Make	Ignition Make	Starter Make	Method of Starting	Length	Height	Width	Height Above Engine Bed	Center to Center of Engine Beds
A.B.C.....Wasp 2	7	Radial.	Air.	4¾x6¼	774.5	4.0	95	160	176	1650	1650	.70	.03	10.0	350	1.75	Own....	P.L.	None.	Swing.	45	42.7*	42.7*	.....	.....
A.B.C....Dragon Fly 1A	9	Radial.	Air.	5½x6½	1390.0	4.9	117	340	360	1650	1650	.70	.03	20.0	600	1.76	Own....	AK...	None.	Swing.	48	50.5*	50.5*	.....	.....
Beardmore.....160	6	Vertical.	W.	5⅝x6 29/64	1014.0	4.8	107	160	192	1250	1250	.53	.02	10.5	615	3.60	Zenith.	Watf.	Yes.	HM.	65¾	31½	31½	27½	17
Bristol.....Lucifer 3	3	Radial.	Air.	5¾x6¼	486.9	4.8	110	100	118.5	1760	1760	.55	.04	7.75	324	3.24	Claudel.	BTH.	None.	Swing.	36	48*	48*	.....	.....
Bristol.....Jupiter 3	9	Radial.	Air.	5¾x7½	1752.0	5.0	113	380	410	1625	1625	.53	.06	28.25	729	1.92	Claudel.	BTH.	Yes.	CoA.	38¾	56½*	56½*	.....	.....
‡‡Green.....	4	Vertical.	W.	.....	.....	.....	35	.....	.....	.....	.....	.58	.01	.....	185	.....	Zenith.	.....	None.	Swing.	.....	.....	.....	.....	.....
Napier.....Lion	12	T.H. Vee	W.	5½x5¼	1461.6	5.8	122	450	....	2000	1318	.49	.03	30.0	900	2.00	Claudel.	.....	HM.	HC	61½	26	41¾	26¼	17
Napier.....Lion	12	T.H. Vee	W.	5½x5⅛	1461.6	5.0	115	425	....	2000	1316	.49	.03	30.0	900	2.00	Claudel.	.....	HM.	HC	61½	26	41¾	26¼	17
Napier.....Cub	16	F.R. Vee	W.	6¼x7½	3681.6	5.2	119	1000	....	1800	752	.47	.03	60.0	2200	2.20	Claudel.	.....	None.	CoA.	89¼	53¼	56½	30¼	32
Rolls Royce.....Falcon	12	Vee 60°.	W.	4 x5¾	867.0	5.1	127	250	270	1800	1061	.53	.03	18.0	705	2.82	Claudel.	BTH.	Yes.	HM.	65	41	38	.....	.....
Rolls Royce...Eagle IX	12	Vee 60°.	W.	4½x6½	1242.0	5.2	128	360	370	1800	1080	.52	.03	25.0	900	2.30	Claudel.	Watf.	HM.	HC	43	45	42½	.....	.....
Rolls Royce....Condor	12	Vee 60°.	W.	5½x7½	2138.1	5.2	126	650	670	1900	1055	.51	.03	45.0	1552	2.39	Claudel.	BTH.	Yes.	E.M.	89	48	49½	.....	.....
Siddeley.....Lynx	7	Radial.	Air.	5 x5½	760.0	5.0	120	160	190	1500	1500	.48	.02	10.3	470	2.48	Zenith.	.....	None.	Swing.	37	22½*	22½*	.....	.....
Siddeley.....Jaguar	14	Radial.	Air.	5 x5½	1511.5	5.0	120	325	380	1500	1500	.48	.02	21.5	740	1.95	Zenith.	.....	None.	CoA.	42	22½*	22½*	.....	.....
Sunbeam.....Dyak	6	Vertical.	W.	4¾x5⅛	544.9	.....	.....	100	....	1200	1200	.48	.05	6.75	399	.....	Claudel.	.....	None.	HC	65	38¾	23	25	13¾
Sunbeam.....Arab	8	Vee 90°.	W.	4¾x5⅛	726.6	.....	.....	200	....	2000	2000	.48	.05	13.5	517	.....	Claudel.	.....	E.M.	HC	56	37	32	25	13
Sunbeam.....Maori	12	Vee 60°.	W.	3 13/16 x5 5/16	776.0	.....	.....	275	....	2100	1175	.48	.05	18.5	920	.....	Claudel.	.....	None.	CoA.	65½	34	33¾	25½	16
Sunbeam.....Manitou	12	Vee 60°.	W.	4 7/16 x5 1/16	931.2	.....	.....	300	....	2000	1272	.48	.05	20.3	845	.....	Claudel.	.....	E.M.	HC	63¾	35	33¾	24½	18¼
Sunbeam.....Cossack	12	Vee 60°.	W.	3 13/16 x6 5/16	922.0	.....	.....	350	....	2000	1000	.48	.05	23.2	1200	.....	Claudel.	.....	None.	CoA.	70½	38¾	38	26¾	15¾
Sunbeam.....Matabele	12	Vee 60°.	W.	4 13/16 x6 5/16	1377.0	.....	.....	400	....	2000	1222	.48	.05	27.0	1000	.....	Claudel.	.....	None.	CoA.	70½	38¾	38	26¾	16¼
Sunbeam.....Sikh	6	Vertical.	W.	7 1/16 x8 13/32	1978.0	.....	.....	450	....	1400	1400	.48	.05	27.0	1120	.....	Claudel.	.....	E.M.	HC	73½	45	26¼	31	20½
Sunbeam.....Sikh	12	Vee 60°.	W.	7 1/16 x8 13/32	3948.1	.....	.....	900	....	1400	920	.48	.05	54.0	1952	.....	Claudel.	.....	E.M.	HC	98½	48¾	35½	26¾	20
Wolseley "Viper".....	8	Vee 90°.	W.	4¾x5⅛	717.9	5.43	.....	200	230	2000	2000	.51	.05	.....	490	2.13	Zenith.	BTH.	None.	HC	47¼	34½	33½	17⅞	13

ABBREVIATIONS:
‡‡—Taken from 1922 specifications
W—Water
T. H. Vee—Three Row Vee
F. R. Vee—Four Row Vee
Claudel—Claudel Hobson
Stromb—Stromberg
Berks—Berkshire
Berl—Berling
Split—Splitdorf
Watf—Watford
E. M.—Electric Motor
Co. A.—Compressed Air
HC—Hand Crank
HM—Hand Magneto
Swing—Propeller Swinging
Gas M.—Auxiliary Gasoline Motor
*—Outside diameter of cylinders

Deeper Drilling and Better Geology Made Gasoline Plentiful in 1922

Overproduction due to temporary stimulus. More rapid recovery of petroleum does not indicate any wider reserves. Sources of oil move westward. Mexican production drops and domestic supply increases. Problem of better utilization yet unsolved.

By Joseph E. Pogue *

FROM the point of view of the automotive industry, the most important developments in 1922 in respect to petroleum, would undoubtedly include the following:

1. **The encroachment of salt water in the light-oil fields of Mexico made rapid progress and the production of crude petroleum in Mexico declined from a high of 666,000 barrels a day in January, 1922, to 400,000 barrels daily in December.[1]**
2. **The production of crude petroleum in the United States staged a remarkable and almost unprecedented increase, enlarging from 1,400,000 barrels daily on January 1, 1922, to 1,740,000 barrels daily on December 31.**
3. **In spite of a vigorous increase in the consumption of gasoline, the abundance of crude oil during the year stimulated an over-production of motor-fuel, with the consequence that the refinery price of gasoline declined at the approximate rate of ¼ cent per gallon per week throughout the last six months of the year and on December 31 reached a level almost coinciding with the low of 1921**
4. **The consumption of fuel oil was strongly stimulated during the year, with the result that refinery activity was keyed up in excess of gasoline requirements and crude petroleum was utilized at a faster rate than necessitated by the requirements of the automotive industry.**

Domestic Production of Crude Petroleum

The broad features of the crude petroleum situation in 1922, as compared with recent years, are summarized in Table 1. It is there seen that domestic production in 1922 increased 81,000,000 barrels, or 17 per cent; imports remained the same as in 1921; stocks enlarged practically 100,000,000 barrels, and domestic consumption expanded 54,000,000 barrels or 10.3 per cent. Thus it is apparent that 1922 was a year of marked overproduction for crude oil, although by the end of the year much better equilibrium between supply and demand had been attained than prevailed during the first three-quarters of the year.

This progress toward better equilibrium was brought about, as shown in Fig. 1, by a rapid growth of consumption accompanied by a drastic decline in imports, in spite of extraordinary increases in the productivity of domestic oil fields.

The acceleration in domestic production was apparently the result of more effective and widespread use of geology coupled with faster and deeper drilling. The presence of these new and potent factors in the production situation would seem to be clearly indicated by the size and productivity of the wells brought in during 1922 as compared with other years. As is evident from Table 2, fewer wells were drilled in 1922 than the yearly average for the preceding five years, yet the average productivity per well was over twice as large and the current rate of production was thereby proportionately increased.

This quickening in production does not necessarily signify a greater ultimate supply of petroleum, for no

Table 1—Trend of the Crude Petroleum Situation

(In millions of barrels.)

By Years	Domestic Production	Imports	Stocks End of Period	Domestic Consumption	Average Price, $ per Bbl.
1913	248	17.8	123	262	$1.14
1914	266	17.2	142	261	.93
1915	281	18.1	164	273	.75
1916	301	20.6	162	319	1.33
1917	335	30.2	146	378	1.77
1918	356	37.7	122	413	2.22
1919	378	52.8	128	418	2.25
1920	443	106.2	134	530	3.44
1921	470	125.3	184	525	1.86
1922[a]	551	125.0	278	579	1.78
By months 1922					
Jan.	43.1	13.1	196	44.9	1.99
Feb.	40.8	12.1	209	39.6	1.98
Mar.	46.6	14.0	222	47.1	1.98
Apr.	44.6	11.7	235	41.0	1.98
May	46.5	14.0	246	48.6	1.98
June	45.6	12.2	256	48.2	2.02
July	46.6	10.0	261	50.1	1.82
Aug.	46.5	8.4	272	50.1	1.52
Sept.	45.3	6.5	273	49.2	1.52
Oct.	47.9	7.4	275	52.9	1.52
Nov.	47.9	7.4	276	53.4	1.53
Dec.	...	...	...	...	1.57

[a] Includes December estimated.

*Consulting Engineer, New York.

[1] The statistics presented in this review were derived from the following sources: Data on crude petroleum from U. S. Geological Survey and American Petroleum Institute; refined products from U. S. Bureau of Mines; well data from Oil and Gas Journal; export figures from U. S. Bureau of Foreign and Domestic Commerce; prices calculated by the writer from quotations given in the National Petroleum News, and the Oil, Paint and Drug Reporter.

Table 2—Trend of Oil-Well Drilling in the Fields of the United States Exclusive of California, By Years, 1917-1922

Data from *Oil and Gas Journal*

Year	Total Completions, No.	Total Dry, No.	Total Gas, No.	Total Oil Wells, No.	Initial Production, Bbls.	Av. Initial Production Per Well, Bbls.
1917	22,355	4,718	1,964	15,673	1,382,732	88.22
1918	24,926	5,733	2,225	16,968	1,486,818	87.62
1919	28,512	5,756	2,077	20,679	3,439,616	166.33
1920	36,385	7,375	2,272	26,738	3,387,640	126.69
1921	21,091	4,993	2,135	13,963	2,780,739	199.15
1922	23,721	5,349	2,171	16,201	3,911,740	241.45
Total	156,990	33,924	12,844	110,222	16,389,285	148.69

additional oil is thereby created. It merely means that we are learning to recover this supply more rapidly, with resulting expansion in consumption of fuel oil, or, in other words, waste of potential motor fuel.

However, it should be mentioned that many geologists and petroleum engineers are coming to believe that recent estimates of the unmined supply of crude petroleum, which place the recoverable volume at nine billion barrels, more or less, are too low, and the ultimate recovery will be found to be substantially larger. Certainly the recent rapid expansion of our productive oil fields both laterally and vertically tends to suggest that prior estimates of the unmined supply, if in error, are inclined to be too low than too large.

Yet any enlargements in the reserve through new discoveries, if present tendencies continue, are likely to be balanced by a corresponding growth in the consumption of fuel oil and retardation of progress toward efficient motor-fuel utilization, so that little net advantage will be gained, so far as the automotive industry is concerned.

The past year was marked by domestic oil-field expansion in four principal directions: The bringing in of several highly productive, light oil fields in Oklahoma; the opening up of a large potential production in Wyoming; the development of three remarkably productive pools in the Los Angeles basin of California, and the discovery of an area of gusher wells in Southern Arkansas near Smackover. These four regions, particularly Wyoming and California, offer prospects of much new production in 1923.

Imports of Crude Petroleum

As shown in Table 1 and Fig. 1 the imports of crude petroleum, that is to say the crude oil shipped from Mexico to this country, suffered a notable decline during the second half of 1922. This recession was occasioned by the invasion of salt water into the prolific Toteco oil pool near Tampico, whose production between early July and late September dropped to the extent of 200,000 barrels daily. This result was predicted in a review of the oil situation published in this journal on Feb. 16, 1922, where it was stated that "the life of the known fields in Mexico is limited, and the output of that country will shortly be considerably reduced pending the development of new productive areas, which, of course, will take time." Little can now be added to this statement regarding Mexico; its production has been cut nearly in half; no further drastic declines are immediately in prospect, but it appears that the flood of cheap Mexican oil that has depressed the American market in 1921 and 1922 is now a thing of the past.

The importance of the developments in Mexico can scarcely be exaggerated. For the past three years the United States has been dependent upon the Mexican oil fields for over a fifth of the crude oil required by the American petroleum industry. This proportion can now no longer be maintained. It is doubtful if Mexican shipments during 1923 will be able to provide more than an eighth of our requirements. The result, of course, will be much heavier drafts on the domestic resources.

The significance of this changed condition can best be conveyed, perhaps, by stating the gasoline content of the imported crude: During May, 1922, the gasoline content of the crude oil imported was equivalent to 33,000 barrels daily; in October this figure had dropped to 21,000 barrels, and owing to a shift toward heavier oils in Mexican production, the gasoline content will probably fall to 10,000 barrels daily within the next six months. This decline has already placed an additional burden upon the high-gasoline crudes in this country and was undoubtedly one of the factors responsible for the recent upward movement in the price of the better grades of Mid-Continent oil.

Output of Refined Products

The production of the principal products of petroleum —gasoline, kerosene, fuel oil and lubricating oils—increased substantially in 1922 over 1921, as shown in Table 3. Of particular interest is the increase of 996,000,000 gallons, or 19 per cent, that characterized gasoline, which,

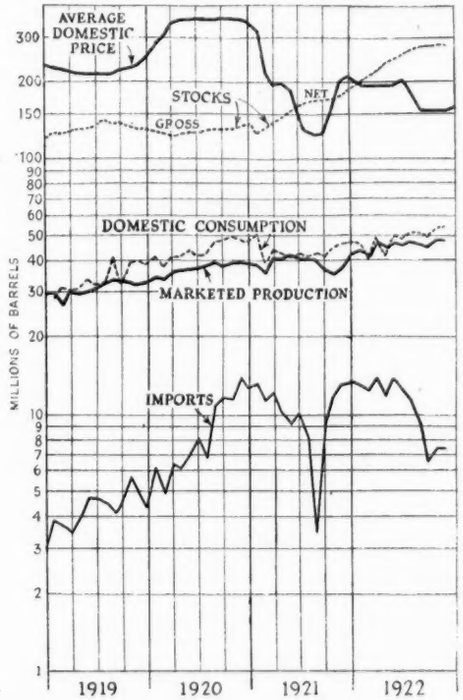


Fig. 1.—Trend of the crude petroleum situation in the United States by months, 1919-1922

of course, is quite in line with the rapid expansion of automotive transportation during this period.

Exports of petroleum products, with the exception of fuel oil, also displayed a fair increase in 1922 as compared with 1921, as is shown in Table 4. In view of the disturbed condition of Europe, this relationship emphasizes the essential character of these commodities. During the year, however, there was considerable expansion in foreign refining, especially on the part of the Anglo-Persian Oil Company, Ltd., so that the increase in exports did not fully register the growth in consumption abroad.

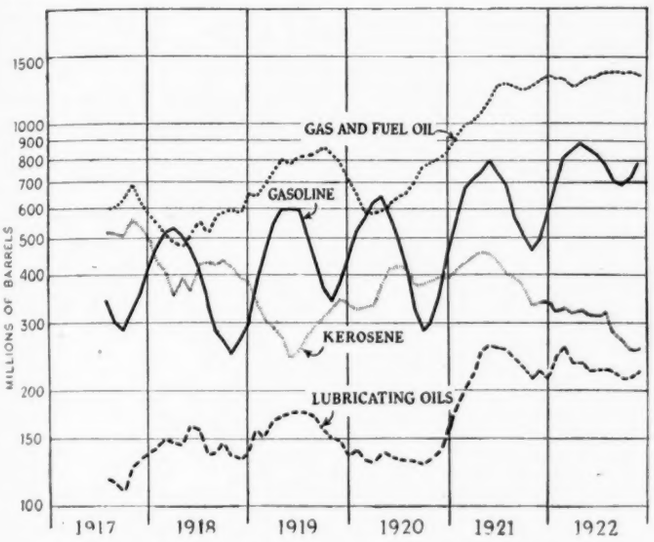


Fig. 2.—Trend of the stocks of the principal products of petroleum in the United States by months, 1917-1922. Monthly data prior to July, 1917, are non-existent

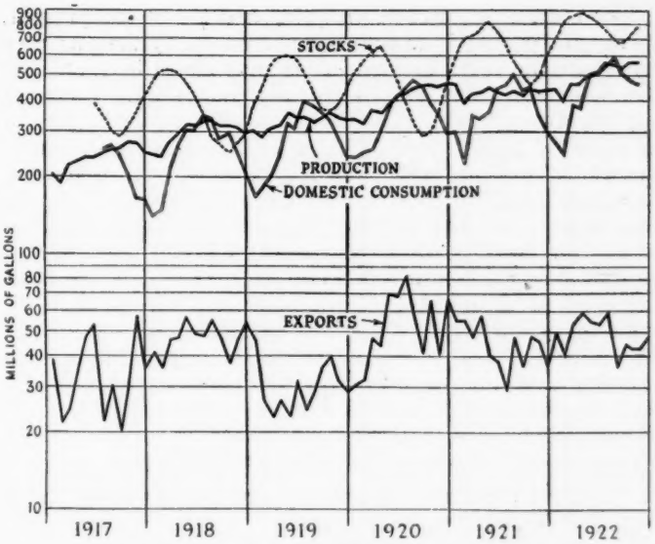


Fig. 3.—Trend of the gasoline situation in the United States by months, 1917-1922. This chart covers the entire period for which detailed gasoline statistics are available

The course of the stocks of refined oils, as depicted graphically in Fig. 2, is a good index of the supply-demand relationships pertaining to these products. It is apparent that, with the exception of kerosene, the large stocks built up during the depression of 1921 were not substantially reduced, and even the stocks of gasoline ended the year somewhat in excess of normal.

The Gasoline Situation

The trend of the gasoline situation by months during 1922 is depicted graphically in Fig. 3, on which the monthly data for five preceding years are entered to give perspective. The chart represents a record for this commodity over the entire period for which detailed statistics are available. The seasonal character of consumption and stocks is strikingly apparent, as well as the consistent upward trend of production and consumption during the period covered.

The most characteristic feature of 1922 is the manner in which production followed consumption upward during the spring and summer, thus leading to an over-supply of gasoline as indicated by the failure of stocks to be depleted to their normal level and the downward tendency of the price of gasoline after the first half of the year.

Table 3—Trend of the Production of the Principal Products of Petroleum

(In millions of gallons)

By Years	Gasoline	Kerosene	Gas and Fuel Oil	Lubricating Oils
1914	1,500	1,935	3,734	517
1915	....	....	....	....
1916	2,059	1,455	4,664	625
1917	2,851	1,727	6,513	754
1918	3,570	1,825	7,321	841
1919	3,958	2,342	7,627	847
1920	4,883	2,320	8,861	1,047
1921	5,154	1,945	9,664	878
1922[a]	6,150	2,330	10,635	980
By months, 1922				
Jan.	445	173	858	74.3
Feb.	398	167	761	69.1
March	472	179	849	73.4
April	473	189	792	72.9
May	514	174	937	79.8
June	526	174	903	80.1
July	570	193	959	91.7
Aug.	550	184	944	88.8
Sept.	536	198	918	82.1
Oct.	566	215	922	87.3
Nov.	567	234	892	89.3
Dec.	....	....	....	....

[a] December estimated.

Table 4—Trend of the Exports of the Principal Products of Petroleum

(In millions of gallons)

By Years	Gasoline	Kerosene	Gas and Fuel Oil	Lubricating Oils
1913	188	1,119	427	208
1914	210	1,010	703	192
1915	282	837	812	240
1916	356	855	964	261
1917	416	658	1,124	280
1918	559	491	1,201	257
1919	372	979	618	275
1920	635	862	847	411
1921	533	749	845	289
1922	579	895	697	330
By months, 1922				
Jan.	49.9	82.2	50.5	31.2
Feb.	38.2	62.3	49.5	23.6
March	52.8	81.0	62.6	34.1
April	58.2	89.4	42.8	30.9
May	55.8	60.5	62.9	24.5
June	53.8	69.4	53.2	25.9
July	58.6	50.4	45.9	28.3
Aug.	36.0	86.6	59.5	27.0
Sept.	44.8	71.7	68.1	28.0
Oct.	42.8	84.1	59.0	26.3
Nov.	41.6	76.8	65.8	27.7
Dec.	47.2	78.1	79.6	22.4

The volume of gasoline produced and the stocks present, in various parts of the country, are shown by months over the past two years in Fig. 4. It may there be seen that the manufacture of gasoline is well distributed throughout the United States and a local supply is available to all parts of the market. The great market of the North-Central States, however, finds it necessary to draw part of its supply from Kansas-Oklahoma and part from Wyoming. One feature of 1922 was the marked increase in gasoline production in Wyoming, which resulted not only in extensive shipments into the Middle West but left the local refineries with unusually large stocks of this product at the end of the year. Also the refineries of Oklahoma-Kansas and of Texas-Louisiana turned out gasoline in such quantity that the stocks in those regions failed to show their normal decline in late summer and ended the year in unprecedented volume.

During 1923 the ability of the refiner to win a growing percentage of gasoline from the crude oil consumed showed continued progress. This advance in refinery efficiency

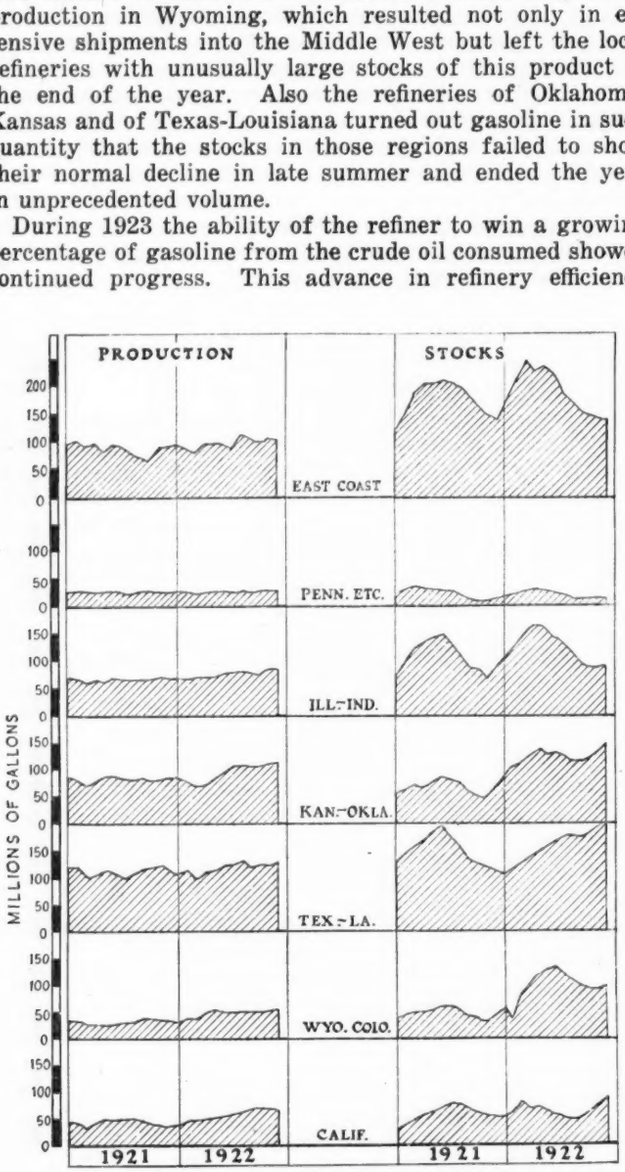


Fig. 4.—Production and stocks of gasoline in the United States by districts and by months, 1921-1922

was brought about through the development and extension of the art of cracking fuel oil into gasoline, as well as by means of extracting an enlarging volume of volatile gasoline from natural gas for blending with naphthas too heavy to be used alone as motor-fuel. In this way, 25.4 per cent of the volume of crude oil consumed in 1922 made its appearance on the market in the form of gasoline, as compared with 23.4 per cent in 1921, 21.8 per cent in 1920, 22.3 per cent in 1919, and 20.6 per cent in 1918. The rate of increase in the size of this extraction factor is very significant, for it indicates so far as the requirements of motor-fuel are concerned, that the supply of crude petroleum does not need to grow as rapidly as the rate of increase in the demand for gasoline.

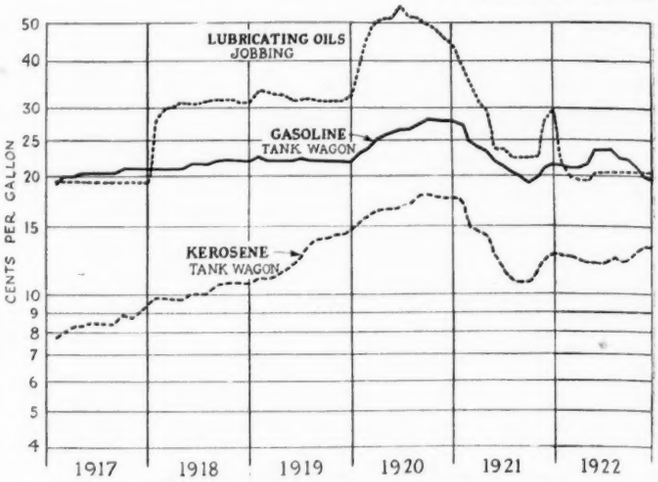


Fig. 5.—Trend of the average prices of gasoline, kerosene, and lubricating oils in the United States by months, 1917-1922

The year just closed was marked by the westward movement of the sources of gasoline, in that the production of the high-gravity crudes of Wyoming was almost doubled, while there was opened up in the Los Angeles basin a large output of crude oil with a gasoline content of around 20 per cent, much in excess of the older fields of California. One of the outstanding features of the present year is likely to be a heavy draft of these two newer sources of supply with the possibility of far reaching adjustments in the gasoline trade.

Endpoint of Gasoline

The tendency toward overproduction of gasoline that prevailed during 1922 naturally suggests that the quality of the gasoline supply had no occasion to deteriorate, so that it is not surprising to find that the two motor-gasoline surveys conducted by the U. S. Bureau of Mines in 1922 showed that the average endpoint of motor-gasoline in the United States was less than in 1921, materially less than in 1920, and even failed to register the usual seasonal increase in July as compared with January. Reference to Table 5 will reveal a generalized cross-section of the gasoline supply for several years in a number of widely separated cities so selected as to yield a representative sample of the entire country. It should perhaps be emphasized further that the volatility of the commercial supply of gasoline is a function of the ampleness of the supply; in years of overproduction the quality of motor-fuel will be better than in times of stringency. The reason that the endpoint of gasoline for the past two years has reversed its normal upward trend is because the heavier distillates were not needed to satisfy the demand for

Table 5—Endpoint of Motor Gasoline in Selected Cities in Recent Years

Data from U. S. Bureau of Mines
(In degrees Fahrenheit)

	1919, April	1920, Jan.	1920, July	1921, Jan.	1921, July	1922, Jan.	1922, July
New York	411	418	432	417	422	421	420
Washington	426	439	449	439	442	428	426
Pittsburgh	425	425	454	430	435	430	429
Chicago	423	445	455	439	444	442	436
New Orleans	435	424	445	428	427	428	427
Salt Lake City	441	440	456	439	401	412	412
San Francisco	374	406	428	417	421	421	430
Average	417	427	446	429	427	426	426

motor-fuel; as soon as the supply again begins to run behind demand, the end-point of gasoline may be expected to increase and the problem of utilizing efficiently less volatile fuels will again become acute.

Prices of Mineral Oils

The year just closed witnessed considerable variation in the prices of mineral oils, but the average prices for the year for both crude petroleum and its principal products were less than the average prices for 1921 (see Table 6). This condition is quite remarkable in view of the fact that 1921 was a year of marked depression while 1922 was characterized by expanding business activity and one of the most rapid rises in commodity prices that this country has experienced outside of war-times. The explanation, of course, goes back to the overproduction of mineral oils as responsible for this anomalous condition.

The first half of 1922 was characterized by fairly stable prices for crude petroleum, rising prices for gasoline, and falling prices for kerosene, fuel oil, and lubricants. In the middle of the year the price of crude petroleum broke sharply, almost coincident with the passing of the Toteco Pool in Mexico to salt water, and the price of gasoline thereafter moved steadily downward to the end of the year. The price of fuel oil, stimulated during the middle of the year by the coal strike, weakened upon its settlement, while the price of kerosene moved upward during the autumn. The monthly course of prices for gasoline, kerosene, and lubricating oils over the past six years, is shown graphically in Fig. 5, where the recent changes may be seen in perspective.

Table 6—Index Numbers of the Average Price of Crude Petroleum and Its Principal Products

(Average prices in 1913=100)

By Years	Gasoline	Kerosene	Fuel Oil	Lubricating Oils	Petroleum[a] Products	Crude Petroleum	All[b] Commodities
1913	100	100	100	100	100	100	100
1914	83	97	85	101	89	82	98
1915	75	90	68	97	80	66	101
1916	121	101	98	119	114	117	127
1917	132	108	147	126	130	155	177
1918	139	130	189	200	161	195	194
1919	142	162	149	209	159	197	206
1920	170	217	262	318	225	302	226
1921	143	164	122	179	150	163	147
1922	140	158	117	132	136	156	149
By months, 1922							
Jan.	137	161	114	140	137	174	138
Feb.	135	159	113	129	133	174	141
March	136	155	110	126	132	174	142
April	139	153	117	126	134	174	143
May	148	153	118	133	140	174	148
June	151	153	124	133	145	177	150
July	151	156	121	133	142	160	155
Aug.	142	154	119	133	138	133	155
Sept.	142	156	122	133	138	133	153
Oct.	36	163	118	133	135	133	154
Nov.	128	167	113	133	131	134	156
Dec.	127	167	111	133	130	138	156

[a] Weighted average of gasoline, kerosene, fuel oil and lubricating oils.
[b] From U. S. Bureau of Labor Statistics. Revised.

Table 7—Average Monthly Tankwagon Price of Gasoline in Selected American Cities During 1922

(In cents per gallon)

1922	New York	Baltimore	Atlanta	Cleveland	Chicago	Kansas City	Houston	Salt Lake City	San Francisco
Jan.	26.0	22.4	23.6	22.0	19.5	18.2	18.8	25.5	21.0
Feb.	24.0	21.8	23.0	22.0	19.5	19.2	18.0	25.5	21.0
March	24.0	22.0	23.0	21.5	19.5	19.2	18.0	25.5	21.0
April	24.5	22.5	23.0	21.5	20.6	20.0	17.0	26.0	21.0
May	26.6	24.6	25.8	22.6	21.8	21.2	20.4	27.3	21.0
June	27.0	26.0	27.0	23.0	22.0	21.5	23.0	28.0	21.0
July	27.0	26.0	26.8	22.8	22.2	21.7	22.0	28.3	21.0
Aug.	25.0	24.0	24.8	22.0	21.0	20.5	20.0	26.5	20.3
Sept.	25.0	24.0	24.0	22.0	21.0	20.5	20.0	26.5	20.0
Oct.	24.4	23.1	23.0	21.2	19.8	19.3	20.0	24.9	19.8
Nov.	24.0	21.5	20.0	20.0	18.0	17.5	18.0	21.5	19.0
Dec.	23.0	21.5	19.0	19.0	18.0	17.5	18.0	21.3	19.0

The year ended with the relative prices of the principal mineral oils, with the exception of kerosene, well below the general price level. Thus with the U. S. Bureau of Labor's index of the average price of all commodities registering 156 in December, the price of crude petroleum stood at 138, gasoline at 127, kerosene at 167, fuel oil at 111, and lubricating oils at 133.

The tankwagon price of gasoline is shown in some detail in Table 7 for a number of cities for the various months of 1922. It will be observed that the prices in the various cities moved uniformly upward during the first half of the year, and uniformly downward during the second half. It is interesting to find so consistent a trend in such widely separated points. The reason is that the tankwagon price tends to follow rather closely changes in the refinery price, and in the first half of the year the price at the refinery was dominated by a rapidly increasing demand, while during the second half of the year the controlling influence was an oversupply forcing down the market.

Conclusions

The past two years have been characterized by the tendency of the supply of crude petroleum to run ahead of demand, and in consequence no difficulty has been encountered in meeting the fuel needs of automotive transportation.

What promised to be a disastrous occurrence, the decline in Mexican production, was without immediate effect, for the oil-fields of the United States quickly displayed their competence to expand in output to a compensating degree. But the present highly stimulated productivity of American oil-fields should not be looked upon as a permanent or stable element in the situation; it was brought about by the utilization of geology on an unprecedented scale accompanied by a general tendency on the part of producers to drill for deeper sands. Better, deeper, and faster drilling has accelerated the speed with which the unmined supply of crude petroleum can be brought to the surface. The problem of better utilization is still relatively unsolved. We are learning to use our oil faster; we still need to learn how to use it better.

The automotive designer must cooperate with the oil producer and refiner if the best results are to be obtained over any extended period of time.

Value of Automotive Products Makes Big Gain in 1922

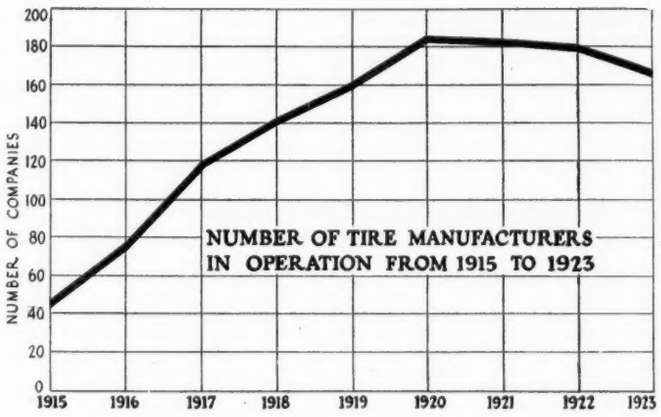
Increased production largely overcomes effect of price reductions. Passenger cars lead the field. General decrease in number of manufacturers. Consumption of raw materials and wholesale values of output show huge size of industry.

THE scope of the automotive industry and its importance in the industrial fabric of the country is well illustrated by the large wholesale value of its products, and the amount of materials which it consumes every year. In 1922 the wholesale value of the passenger car business alone aggregated $1,476,331,436. When the values of the truck and motorcycle output and production of replacement parts, accessories and tires are added to the passenger car figure a total wholesale value of $2,612,336,000 stands for the industry.

The industry's consumption of raw materials for 1922 was larger than ever before. Consumption runs as high as 35 per cent of the total domestic production in the case of one form of steel, and approximately 67 per cent of all leather produced in this country is consumed by automotive manufacturers. The percentage runs even higher in values than in volumes, and a more accurate conception of size may be had by viewing the industry from this angle. Accompanying tables show in detail the amount and value of various products used by this industry last year.

The total wholesale value of the various products of the industry for 1922 compared with the wholesale value for the year 1921 and the percentage gain are as follows:

	1921	1922	Percentage Gain
Passenger cars.....	$1,036,564,345	$1,476,331,436	42
Trucks	281,300,413	331,482,908	17
Replacement parts, accessories and tires	854,500,409	794,022,079	7 loss



The above figures are built up from government excise tax figures with the wholesale values for the month of December, 1922, estimated. Due consideration has been given to the value of exports which are not taxed, and therefore do not appear in excise tax figures. The wholesale value for parts, accessories, and tires does not include any of these items furnished as original equipment on new vehicles.

Production made far greater percentage gains in 1922 than did wholesale values. This is undoubtedly due to the fact that heavy reductions were made in prices of all products during the year, and were it not for this very great increase in production there would have been a general decrease in wholesale values all along the line.

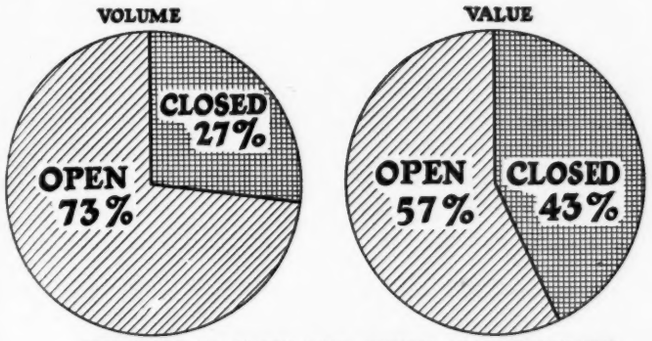
The increased output of replacement parts, accessories, and tires in the year 1922 was not great enough to overcome the decrease in values, with the resultant loss of 7 per cent in wholesale value for the year as compared with 1921. The gain in part, accessory and tire wholesale values will be found in these items furnished as original equipment due to the enormous gain in production of passenger cars and trucks.

A comparison between the percentage gain in production and gain in wholesale values for the year 1921 and 1922 shows an interesting relation in the case of passenger cars and trucks as follows:

CONSUMPTION OF RAW MATERIALS BY AUTOMOTIVE INDUSTRY IN 1922

Material	Total Production	Automotive Consumption	Percentage Automotive Consumption
Lead	461,000 tons	8,500 tons	2
Tin	118,870 tons*	13,200 tons	11
Aluminum	375,000,000 lb.*	50,000,000 lb.	13
Nickel	.....	5,100,000 lb.	..
Copper	1,500,000,000 lb.	105,000,000 lb.	7
Plate glass.....	75,000,000 sq. ft.	35,000,000 sq. ft.	47
Leather	83,415,000 sq. ft.	56,000,000 sq. ft.	67
Imitation leather....	.....	106,000,000 sq. ft.	..
Upholstery cloth....	.....	10,000,000 yd.	..
Lumber	.....	667,732,340 ft.	..
Paint and varnish...	.....	6,509,000 gal.	..

*World production



PERCENT OF OPEN AND CLOSED CAR PRODUCTION

	Percentage Gain in Production	Percentage Gain in Value
Passenger cars.....	55	42
Trucks	60	17

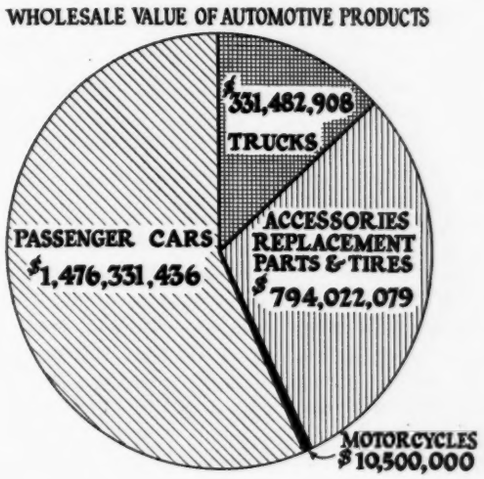
Percentage gain in value is based on total wholesale values built up from tax figures as a base.

The number of closed cars being produced as compared with the number of open cars is not great when considered on a basis of production, but from the standpoint of relative retail values the closed car looms very large, and its true importance to the industry becomes apparent. Reference to the accompanying chart will show the position of closed and open cars in the industry on a value and volume basis.

The consumption of raw materials by the automotive industry shown in the table is based on domestic production of materials unless otherwise stated. Lead production for the year is given as 461,000 tons, but there were 34,000 additional tons of imported lead available for consumption. The estimate of paints and varnishes only covers passenger car requirements, and does not include material used on trucks, parts, accessories, or repainting requirements.

Consumption of aluminum in this country last year amounted to 200,000,000 lb. Of this amount the automotive industry used about 25 per cent. It is significant to note that aluminum purchased by the industry is of high quality as shown by the fact that 25 per cent of the output consumed is valued at 50 per cent of the total output value. Cast aluminum constitutes approximately 85 per cent of the total aluminum consumption, and sheet aluminum the remaining 7,500,000 lb.

The number of manufacturers has declined in all branches of the industry with the exception of motorcycles which number remains the same in 1923 as in 1922. The accompanying chart shows the number of tire companies operating from 1915 to 1923. This does not indicate the number of factories or number of brands produced, as an operating concern combining smaller companies is counted as one manufacturer. The number of manufacturers in the various branches of the automotive industry in operation in 1922 and 1923 is as follows:



	1922	1923
Passenger car	123	106
Truck	153	150
Motorcycle	11	11
Tractor	69	57
Tire	180	167

Affiliated with the automotive industry are some 30 odd national associations and organizations. This number has remained more or less stationary for the past few years.

Consumption of Steel by Automotive Industry in 1922

	Total Production, Tons	Automotive Consumption, Tons	Percentage Automotive Consumption	Total Value Production	Value of Automotive Consumption	Percentage Value, Automotive Consumption
Shapes	2,643,000	32,000	12.1	$101,227,000	$1,226,000	1.2
Bars	4,403,000	1,072,000	24.3	169,639,000	61,946,000	36.5
Rails	2,000,000	.....	....	80,000,000	.....	....
Plate	3,041,000	165,000	5.4	117,140,000	6,356,000	5.3
Sheets	2,540,000	896,000	35.3	227,584,000	92,288,000	40.5
Tin plates	1,186,000	.....	....	115,716,000	.....	....
Wire products..	2,480,000	121,000	4.9	126,190,000	6,098,000	4.8
Pipes	2,350,000	30,000	1.3	163,185,000	2,083,000	1.3
Hoops and bands	629,000	185,000	29.4	31,602,000	9,324,000	29.5
Forgings	367,000	18,000	4.9	12,845,000	630,000	4.9
All others.....	1,811,000	96,000	5.3	63,385,000	3,360,000	5.3
Totals	23,450,000	2,615,000	11.0	$1,208,513,000	$183,311,000	15.0

1922 Export Sales Record Exceeded Only by 1920

Total of 185,039 American motor vehicles sent abroad in year, including large volume of parts, engines, tires, tractors, airplanes and accessories. Value of products shipped to foreign markets was —$136,557,354. Gasoline a big item. Year's statistics analyzed.

FINAL statistics for 1922 show that the foreign demand for American automobiles required a total of 185,039 passenger cars and trucks, thus establishing the assertion previously made that the year would be the second best in the history of the export section of the industry. Only 1920 rolled up a heavier volume of demand than last year, which was about double 1921, and somewhat in excess of 1919. With shipments expanding month by month, and with the last part of the year much better than the earlier months, it seems probable that 1923 will equal if it does not exceed the sales record of 1920.

When the statistics for 1922 are analyzed to determine what was accomplished and what gains were made, the industry finds a surprising volume of trade. It is doubtful if any observers would have predicted twelve months ago that nearly 200,000 American made cars and trucks would be sold abroad during the year, but the year brought a steadily expanding overseas market for the transportation units which the American industry builds.

Careful examination of all the items and all the statistics in the export picture are essential if they are to be properly understood. The total of 185,039, for instance, includes shipments from the United States and Canada, together with the foreign assembly of Ford vehicles. It comprises both cars and trucks, which can not be separated because of the fact that Ford has not seen fit to give such detailed information in regard to his foreign assemblies. The basic figures making up this total, however, are 66,790 passenger cars and 11,445 motor trucks shipped from the United States, 35,382 passenger cars and 2564 motor trucks from Canada, and 68,858 Fords assembled in the plants in England, Spain, Denmark, France, Argentina and Brazil. As the industry understands, these Fords do not show in any of the official United States or Canadian export statistics as completed vehicles, but rather as parts, engines, etc. The reason for adding the Canadian exports to the American totals is that Ford ships completed vehicles from his Canadian plants to the British territories which grant preferential tariff treatment to products from the Dominion and likewise because General Motors, since the latter part of 1921, has shipped Chevrolet and Buick cars from its Oshawa plant to nearly every foreign territory, having concentrated its export production at that plant. The Canadian figures pertain only to Ford, Chevrolet and Buick, which naturally must be considered in any detailed analysis of export trade.

Cars and trucks form only a part of America's international trade in automotive products. While car and truck shipments are the leading factor in this great and growing business, account must be taken of much other equipment, which the world also buys from the United States. When such a compilation is made, including parts, automobile and gas engines, tires, motorcycles, airplanes and airplane parts, farm tractors, storage batteries (of which 90 per cent or more are required for automotive use), magnetos, spark plugs, etc., and isolated electric

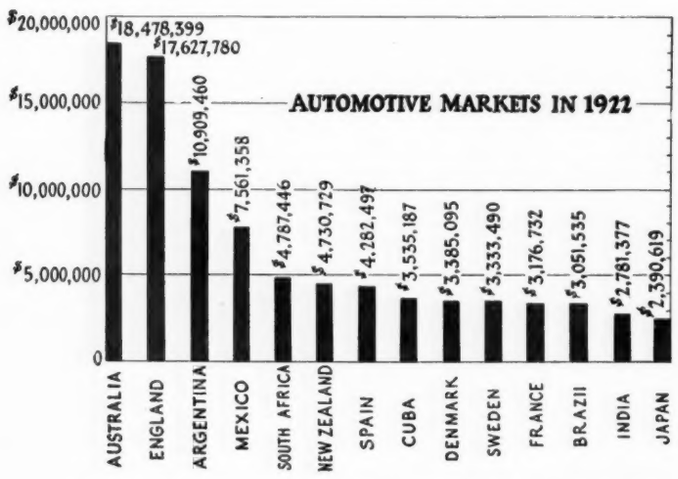


Fig. 1—This comparative table of 1922 exports combines the total value of cars, trucks, tires and parts from the United States, and the cars, trucks, and parts from Canada during the calendar year 1922

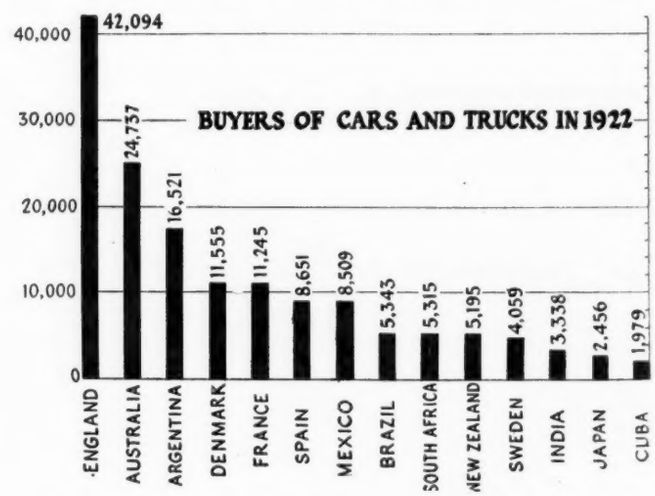


Fig. 2—Table showing shipments in 1922 of cars and trucks from both the United States and Canada and the assemblies of Ford cars and trucks in the six branches located in England, Argentina, Denmark, France, Spain and Brazil

lighting plants, the total amassed for 1922 becomes $136,557,354.

The value of all manufactured goods shipped from the United States last year, according to a recent governmental announcement, was approximately $1,292,000,000. The industry thus has the distinction of having contributed considerably more than 10 per cent of the total foreign trade in manufactured products. It is doubtful if any other one industry has contributed so large a share.

Even with this total the automotive picture has not been completed. To the more than $136,000,000 worth of automotive products might be added the gasoline exports from the United States, practically all of which were required for the operation of motor vehicles. These shipments for 1922 were 579,062,006 gallons, valued at $126,826,842. The sum of these two items is $263,384,926. A further addition of lubricating oils might be made, but it is impossible to separate this item (which had a total in 1922 of $76,642,420) into the percentage used by the automotive industry and that used for other purposes. Consideration also should be given the value of the Canadian shipments of cars, trucks and parts, which in 1922 reached $24,080,530, having jumped from $6,728,432 for the previous year.

Comparison of the 1922 and 1921 shipments from the United States and Canada is impressive. Passenger cars jumped from 30,950 in 1921 to 66,790 for the United States and from 9821 to 35,394 for Canada. Much of this Canadian gain is due to the diversion of General Motors business to the Oshawa plant late in 1921 but the fact remains that the combined shipments of passenger cars from these two countries rose from 40,771 in 1921 to 102,184 last year, the gain being approximately 155 per cent. Motor trucks from the United States were 11,445 in 1922 as compared with 7480 and from Canada 2564 as compared with 1349. Practically every item recorded a gain.

Shipments from the United States*

	1922	1921
Passenger cars	66,790	30,950
	$51,049,616	$32,533,725
Motor trucks	11,445	7,480
	$8,270,908	$10,335,893
Parts	$38,298,032	$39,058,720
Automobile engines	$5,132,754	$1,821,120
Gas engines	5,818	1,320
	$709,877	$362,570
Tires	$19,898,412	$16,466,155
Motorcycles	11,001	15,976
	$4,028,742	$3,517,769
Airplanes and airplane parts	$422,511	$466,548
Farm tractors	9,959	2,380
	$5,960,459	$2,247,001
Storage batteries	110,955	(Nine months only)
	$1,472,692	.....
Magnetos, spark plugs, etc.	$838,782	.....
Isolated lighting plants	1,471	
	$441,569	.....
Gasoline	579,062,006 gal.	533,075,335 gal.
	$126,826,842	$130,906,416

*Porto Rico, Hawaii and Alaska not included.—In ten months of 1922, Alaska purchased 110 cars and 68 trucks, Hawaii 1792 cars and 185 trucks and Porto Rico 531 cars and 100 trucks.

Shipments from Canada

	1922	1921
Passenger cars	35,394	9,821
	$21,059,874	$4,873,792
Motor trucks	2,564	1,349
	$1,094,539	$669,472
Parts	$1,926,117	$1,185,168

The world motor vehicle census, as published elsewhere in this issue, shows a total of 2,379,091 automobiles in operation in all countries outside of the United States, a gain of 295,801 for the year. This increase of 14.12 per cent is practically the same as was recorded for 1922 in the United States, where it was approximately 17 per cent.

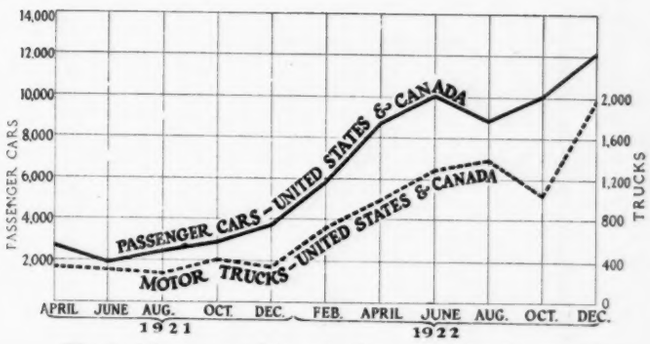


Fig. 3. The upward trend of car and truck exports.

The year was one of steadily enlarging export markets. January was the smallest month and December the largest. At the beginning of 1922 the world was still in the midst of its financial depression and in many territories there were still unsold many hundreds of cars and trucks left over from the overshipments of late 1920 and early 1921. In January, 1922, the overseas sales from both the United States and Canada were only 3751 cars and 562 motor trucks. December sales were 12,215 cars and 1987 trucks.

Business conditions abroad, however, had changed materially. Exchange had moved more satisfactorily for many territories, the commercial outlook had broadened and buying power had been restored to a considerable degree. The abnormal stocks of cars, accessories and other products were liquidated in practically every locality and, given an added impetus by the lower prices resulting from factory reductions and the betterment in exchange, new buying was a natural result.

Nearly every territory was affected, this being true alike for passenger cars, parts, tires and much other equipment. It was true also to a certain extent in the truck field, but this section of the industry has not expanded at anything like the rate of passenger cars. Stocks of old models have not been everywhere sold out, particularly of the heavier sizes. On the other hand, there has been an impressive development throughout the last year or more in the establishment of motor bus service in many territories and likewise in the use of the lighter sizes of trucks for delivery work.

The truck markets, to sum up what undoubtedly is the universal experience of exporters, are slowly enlarging, particularly for the smaller sizes, but much merchandising effort yet remains to be made before the motor truck is accepted generally in the foreign territories as the efficient and economical vehicle of transportation that the United States knows it to be.

Classified Data Available

In 1922, for the first time, export shipments from the United States have been classified for both cars and trucks. This applies only to shipments from the United States and, consequently, does not mean as much as it would if similar statistics from Canada and more detailed figures as to the Ford foreign construction were available. For passenger cars, this classification for the United States shows 42,227, valued at $20,503,025, with a unit value up to $800; 22,513, valued at $24,610,341, with a unit value from $800 to $2,000, and an additional 2027, valued at $5,925,969, with a unit value of over $2,000. On the face of it, this comparison seems to show a high percentage of the medium priced class, much higher than is customary in the domestic markets, but the factors previously mentioned throw such a deduction entirely out of balance, the fact being that most of the overseas markets are now

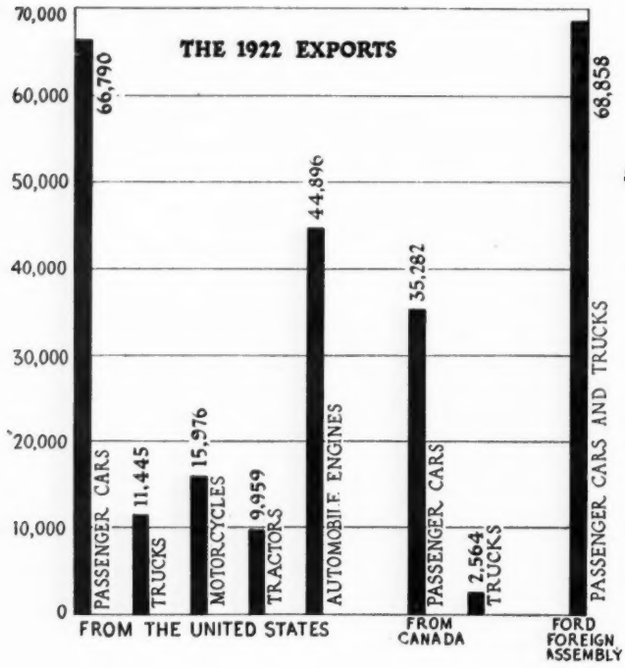


Fig. 4. Comparative table showing 1922 international trade in American cars, trucks, motorcycles, tractors, and automobile engines by number.

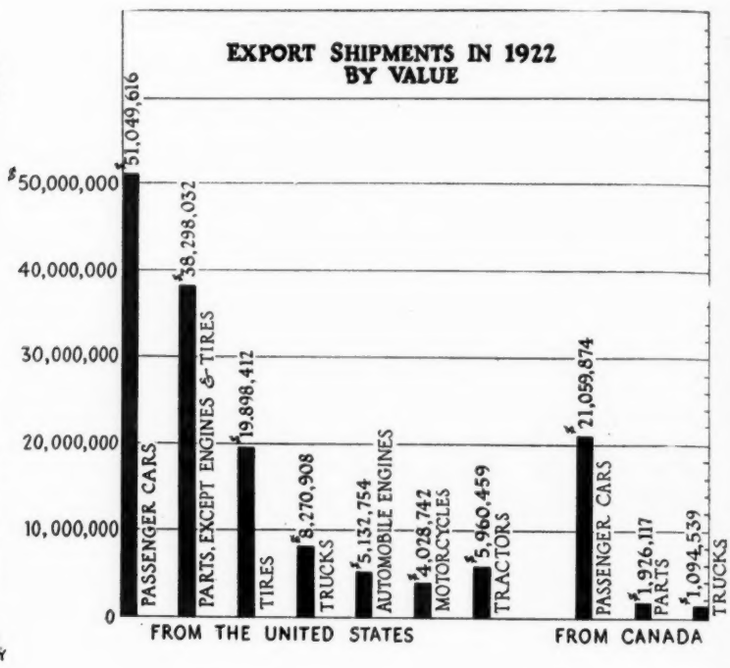


Fig. 5. Value of export shipments made in 1922.

taking automobiles in about the same ratio of price classes that is customary in this country. The classifications given for motor trucks are 8142, valued at $3,142,897, of one ton or under; 2588, valued at $3,198,260, over one ton and up to two and one-half tons, and 725, valued at $1,938,576, of the larger sizes.

The tables published elsewhere in this issue give in detail the 1922 shipments, not only from the United States, but from Canada and the chief European countries.

These tables, however, do not give combined totals and they do not show the Ford foreign production. According to a revision of the previously announced Ford figures, production in the various plants for 1922 was as follows: Manchester, England, 27,194; Buenos Aires, 11,871; Copenhagen, Denmark, 10,552; Bordeaux, France, 10,548; Cadiz, Spain, 5331, and Sao Paulo, Brazil, 3362. This gives a total foreign production of 68,858. The Canadian plant, as a matter of interest, is credited during the year with 50,266. Ford's foreign sales, excluding those shipped from Canada, have just been announced as totalling 87,015 in 1922.

Canada is not, of course, figured as an export territory, although there are a few companies, notably Dodge, which control their sales in the Dominion through the foreign department. Since it is not general practice to consider Canada as export territory, no consideration has been given to its requirements in this statistical study. Shipments to Canada, however, are included in the official statement for exports from the United States and these are included in the total of 66,790 passenger cars and 11,445 motor trucks sent abroad from this country last year. These Canadian shipments from this country were 10,212 passenger cars and 1260 motor trucks.

The chief markets, based on the American and Canadian car and truck shipments and the Ford foreign assemblies, are as follows, with the total taken by each during the year: England 42,094, Australia 24,737, Argentina 16,521, Denmark 11,555, France 11,245, Spain 8651, Mexico 8509, Brazil 5343, South Africa 5315, New Zealand 5195, Sweden 4059, India 3338, Japan 2456 and Cuba 1979.

Leaving out the Ford assemblies and considering only the shipments of passenger cars from the United States and Canada, the chief markets were: Australia 22,094, England 14,072, Mexico 7426, South Africa 4976, New Zealand 4688, Argentina 4602, Sweden 3672, India 3077, Spain 2534, Brazil 1916, Japan 1455 and Cuba 1689. This tabulation, however, is not an important one, as it contains the Ford totals for some countries and leaves them out in others. Similarly, in the truck field, Australia was the leader with 2643, Japan following with 1001 and Mexico being third with 983. Spain was fourth with 786, following which came England, New Zealand, Sweden, South Africa, Cuba and India. This tabulation has the same drawback as the previous one referring to passenger cars.

In the shipments of parts from both the United States and Canada, the influence of the Ford assemblies is shown more conclusively, as in these totals is contained much of the material going from this country to be fabricated into Ford vehicles overseas. The comparison here shows England to have been in the lead with a value of $4,155,437, Argentina being second with $3,347,673. The third country was France, with shipments valued at $2,141,907, followed by Denmark with $2,021,712, Australia $1,631,752, Spain $1,344,235, Mexico $905,020, Brazil $760,875, Cuba $724,137, South Africa $541,488, India $515,740, New Zealand $420,729 and Sweden $207,826.

In seeking to determine the comparative value of the various export markets, a combination of all of these items probably will give the clearest picture and will determine definitely just what territories were of the most importance last year to the export section of the industry. Such a table would bring together the value of all automotive shipments, from both the United States and Canada. A tabulation of this character, the totals consisting of the car, truck, parts and tire shipments from the United States and the car, truck and parts shipments from Canada, shows Australia to have been well in the lead, with total purchases of $18,478,399. England was second, with Argentina and Mexico coming third and fourth, the respective totals being $17,727,780, $10,909,460 and $7,561,358. Following them were South Africa $4,787,446, New Zealand $4,730,729, Spain $4,282,497, Cuba $3,535,187, Denmark $3,385,095, Sweden $3,333,490, France $3,176,732, Brazil $3,051,535 and India $2,781,377.

Exports of Automotive Parts, 1912-1922 (Not Including Engines and Tires)

	1912	1913	1914	1915	1916	1917	1918	July 1 to Dec. 31, 1918	Calendar Year 1919	1920	1921	1922	Total 1912 to 1922
Europe:													
Austria (Prior to 1920 A. Hungary)	$2,195	$4,572	$5,198	$1,045	.....	.....	.....	.....	$825	$363	$2,931	$1,538	$18,667
Azores and Madeira Islands	99	720	1,384	1,800	$1,532	$1,270	$198	$1,600	1,909	4,555	4,173	4,039	23,279
Belgium	13,614	4,897	20,978	446	.....	.....	906	.....	141,974	334,422	145,056	404,518	1,066,811
Bulgaria	823	40	390	.....	.....	.....	.....	.....	307	1,399	901	1,328	5,188
Czechoslovakia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	182	5,620	5,802
Denmark	2,996	6,646	8,664	13,710	31,886	53,917	6,048	5,296	472,376	3,111,296	1,842,018	2,022,712	7,577,565
Esthonia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	589	589
Finland	1,104	1,799	2,931	1,178	5,627	55	.....	.....	12,137	24,787	22,154	4,206	75,978
France	85,537	165,950	179,351	480,764	2,216,823	3,700,812	3,999,904	3,158,628	1,966,719	3,980,079	1,099,683	2,141,907	23,176,157
Germany	80,036	113,602	213,351	13,770	.....	.....	.....	.....	.....	4,972	20,917	15,784	462,432
Gibraltar	100	.....	514	229	617	525	61	.....	834	6,033	7,559	5,576	22,048
Greece	454	379	807	2,010	24,724	12,604	4,675	13,415	102,715	114,275	80,340	45,226	401,624
Hungary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	300	467	767
Iceland and Faroe Islands	.....	17	180	880	456	2,608	2,757	3,385	13,661	11,903	15,085	4,019	54,951
Italy	6,304	14,156	50,580	65,521	115,230	180,977	99,947	26,195	100,078	372,288	143,161	76,640	1,251,107
Latvia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	330	4,486	4,816
Lithuania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	276	276
Malta, Gozo & Cyprus Islands	.....	.....	.....	.....	.....	54	.....	.....	136	6,822	9,718	9,528	26,258
Netherlands	6,440	14,135	7,634	3,055	41,525	96,200	3,625	.....	286,540	457,966	203,377	95,575	1,216,472
Norway	934	1,636	1,893	15,607	59,769	109,542	18,855	65,253	385,508	515,795	200,547	111,129	1,486,468
Poland and Danzig	.....	.....	.....	.....	.....	.....	.....	.....	.....	28,359	50,524	1,736	80,619
Portugal	865	920	2,357	3,239	45,356	66,929	20,274	11,770	58,031	176,367	36,189	30,225	452,522
Rumania	2,734	1,003	887	.....	391	.....	.....	.....	85,087	44,061	42,774	17,437	194,374
Russia in Europe	1,743	9,566	14,079	123,667	2,498,879	1,624,431	328,633	177	510	13,733	2,690	28,518	4,646,626
Spain	3,755	3,192	6,266	7,347	32,743	95,720	154,850	52,848	227,977	3,238,719	799,893	1,337,251	5,960,561
Sweden	3,789	4,276	6,140	4,211	37,917	26,891	4,032	.....	64,535	472,007	218,718	205,018	1,047,534
Switzerland	.....	457	1,069	400	1,150	565	54	.....	28,177	119,692	53,074	26,288	230,926
Turkey in Europe	964	116	.....	267	.....	.....	.....	.....	83,178	103,977	39,741	30,929	259,172
Ukraine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,175	4,175
England	931,909	922,866	1,282,388	3,282,973	7,202,475	6,121,211	6,329,114	3,328,599	6,369,838	22,455,836	7,417,488	3,630,485	69,275,182
Scotland	874	1,485	23,269	29,403	52,414	22,146	955	154,686	53,060	114,007	14,705	6,616	473,620
Ireland	523	451	250	208	7,181	1,264	.....	.....	16,481	62,356	53,423	89,677	231,814
Jugoslavia, Albania & Fiume	113	.....	.....	.....	4,932	.....	.....	.....	350	808	10,184	13,024	29,411
North and South America:													
British Honduras	165	509	163	684	548	1,379	2,638	1,839	6,183	10,090	3,723	3,541	31,462
Canada	2,392,592	3,104,097	3,663,879	2,741,178	7,492,639	9,148,110	12,054,824	5,677,029	16,865,619	22,814,873	12,241,809	17,047,003	115,243,652
Costa Rica	1,320	4,516	6,208	5,041	10,162	7,498	23,613	1,924	8,217	20,024	12,303	14,264	115,090
Guatemala	2,062	1,851	1,613	732	2,367	9,852	9,111	2,882	20,078	47,260	39,161	21,956	158,925
Honduras	151	308	1,053	6,870	15,649	12,639	11,952	4,297	19,884	48,566	34,560	28,368	184,297
Nicaragua	86	741	47	609	666	964	2,264	4,894	26,930	56,222	10,203	2,324	105,950
Panama	4,689	11,738	16,988	25,861	34,180	56,657	72,180	26,403	88,546	116,272	123,292	69,781	646,587
Salvador	2,790	2,242	2,481	2,371	3,717	11,314	10,179	4,206	43,915	59,020	18,394	18,163	178,792
Mexico	47,479	46,743	41,508	30,819	42,258	125,823	431,440	260,492	704,873	1,074,909	1,528,729	902,735	5,237,808
Miquelon, Langley & St. Pierre Is.	.....	.....	300	.....	25	5	65	29	279	69	12	48	832
Newfoundland and Labrador	2,026	2,993	3,901	3,632	8,672	9,972	4,129	5,245	26,196	28,582	19,018	19,057	133,423
Barbados	3,209	5,055	4,177	4,216	6,383	14,452	15,089	7,192	25,902	38,110	31,343	20,134	175,262
Jamaica	23,569	25,355	24,693	32,337	53,867	54,854	65,429	22,071	92,521	196,662	151,667	92,912	835,937
Trinidad and Tobago	4,847	9,119	13,003	12,865	21,826	44,060	55,794	24,355	104,251	175,810	116,594	64,289	646,813
Other British West Indies	1,426	1,157	2,538	3,707	9,303	12,868	21,446	7,706	38,299	40,649	32,036	30,887	202,022
Cuba	31,594	35,928	48,217	101,429	411,731	906,710	1,028,276	566,079	1,582,241	2,288,292	1,527,363	724,137	9,251,997
Virgin Islands of U. S.	558	1,640	1,206	865	975	1,876	2,844	2,283	12,077	31,109	27,867	8,123	91,423
Dominican Republic	3,381	1,331	3,439	3,633	12,389	35,301	39,816	44,189	88,744	218,212	124,582	113,699	688,716
Dutch West Indies	281	1,767	2,754	4,598	3,288	6,052	4,707	1,490	5,435	8,913	16,188	14,046	69,519
French West Indies	97	198	8,099	7,423	9,546	24,672	53,518	17,495	83,474	68,754	37,812	20,355	331,443
Haiti	331	2,212	1,095	185	3,285	3,962	24,385	7,949	49,922	68,920	39,492	40,049	241,787
Argentina	70,446	74,138	92,633	49,990	222,637	1,458,111	3,088,534	706,571	3,753,370	7,265,651	3,658,276	3,357,170	23,797,527
Bolivia	25	172	1,209	2,880	3,453	11,864	14,533	4,891	18,519	19,076	13,029	11,502	101,153
Brazil	35,680	108,859	84,602	28,633	59,935	134,326	223,414	103,834	806,556	3,144,122	522,825	996,003	6,248,789
Chile	2,656	4,711	22,405	14,721	72,939	248,043	806,015	359,668	586,031	426,563	168,605	119,791	2,832,148
Colombia	7,681	18,676	19,970	9,695	18,967	27,777	40,717	8,549	77,159	216,841	121,611	93,639	661,282
Ecuador	3,461	9,115	6,324	4,458	8,014	12,648	12,964	4,251	21,949	50,384	36,582	18,002	188,152
British Guiana	3,181	3,809	4,583	5,116	6,809	23,597	35,081	23,882	40,460	50,483	34,015	15,799	246,815
Dutch Guiana	12	39	911	1,702	2,052	3,212	3,282	1,872	5,511	15,503	9,575	8,330	52,001
French Guiana	6	125	.....	165	328	11	2,337	17	307	191	248	4,431	8,166
Paraguay	32	.....	.....	1,030	848	228	698	21	1,978	8,694	9,369	176	23,074
Peru	1,604	2,550	5,982	4,727	5,458	27,332	88,098	61,925	173,348	474,832	227,387	99,254	1,172,497
Uruguay	12,599	32,978	21,401	14,359	27,086	125,913	183,005	47,408	372,223	609,409	202,050	163,136	1,811,567
Venezuela	4,648	20,123	36,286	28,750	40,783	87,768	57,873	28,842	110,496	212,835	154,536	83,744	866,684
Asia:													
Aden	.....	502	1,676	361	998	4,541	263	6	7,578	12,344	8,025	2,842	39,136
Armenia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	826	826
Ceylon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17,158	17,158
China	2,254	3,134	5,825	5,265	21,661	54,753	60,134	39,714	175,579	302,758	154,017	96,934	922,028
Kwantung (leased territory)	.....	.....	.....	.....	46	1,747	672	558	63,831	1,337	5,705	8,011	91,907
Chosen	748	2,271	2,791	282	10,377	2,125	2,812	9,506	39,603	2,934	17,157	4,835	175,441
British India	14,568	18,336	47,923	44,735	129,562	345,855	294,909	99,819	493,188	1,411,866	549,954	314,839	3,765,554
Straits Settlements	5,273	14,660	25,100	20,388	39,025	70,043	69,968	66,920	151,991	583,215	160,762	66,328	1,273,673
Other British East Indies	829	901	4,099	4,062	8,540	27,710	23,273	4,100	13,319	95,321	24,740	773	207,667
Java & Modura	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	157,442	157,442
Other Dutch East Indies	3,452	11,453	15,368	15,232	34,638	193,225	192,430	338,429	488,705	1,041,283	696,269	22,914	3,053,398
French Indo China	.....	.....	.....	274	.....	.....	1,998	2,367	9,356	42,210	35,329	8,555	100,089
Far Eastern Republic	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	300	862	1,162
Greece in Asia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,154	2,650	3,804
Hejas, Arabia, etc.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13,904	25,580	39,484
Hongkong	2,711	92	626	1,088	2,180	2,885	7,702	9,764	27,277	44,338	21,106	28,090	147,859
Japan	39,681	51,619	35,637	26,028	30,446	116,130	319,038	235,317	719,460	624,805	551,981	456,386	3,206,528
Persia	.....	.....	.....	174	.....	.....	1,090	3,080	270	8,415	19,143	9,769	41,941
Palestine and Syria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	47,941	119,310	167,251
Russia in Asia	.....	.....	.....	107,351	226,255	146,083	25,512	.....	194,613	18,265	4,233	.....	722,312
Siam	970	1,925	4,905	2,451	34,412	9,734	7,639	3,708	9,479	13,909	19,662	7,012	115,806
Turkey in Asia	30	239	67	214	.....	.....	.....	3,764	5,552	63,225	85,153	121	158,365
Oceania:													
Australia	102,427	166,176	202,363	199,154	389,690	753,309	1,052,986	963,753	1,462,330	1,725,740	1,033,010	1,044,539	9,095,477
New Zealand	26,095	37,438	53,644	48,111	176,618	285,654	309,658	243,468	529,000	1,179,087	452,840	330,045	3,671,658
Other British Oceania	971	479	1,060	665	1,991	4,751	4,674	2,713	8,330	10,461	7,796	4,524	48,415
French Oceania	495	3,032	7,560	5,730	5,640	4,383	6,272	2,435	9,906	8,128	10,423	6,935	70,939
Other Oceania	.....	220	396	.....	66	936	7,138	2,107	7,961	9,037	12,092	6,999	46,952
Philippine Islands	62,631	53,434	69,933	40,228	63,756	116,670	178,036	198,489	600,646	859,396	365,989	209,646	2,818,854
Africa:													
Algeria & Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,910	1,910
Belgian Congo	.....	.....	.....	.....	34	.....	.....	.....	7,893	1,896	13,651	59,060	82,534
British Africa — West	56	465	5,743	6,537	20,311	64,938	49,077	29,807	141,902	348,473	148,219	114,705	930,233
British Africa — South	29,123	62,304	157,246	100,240	286,401	422,200	811,323	195,714	878,723	1,624,438	425,935	336,720	5,330,367
British Africa — East	851	1,444	3,203	3,929	11,371	9,599	23,290	4,570	35,158	52,461	37,266	25,108	208,250
Canary Islands	13	879	1,505	1,939	2,111	3,261	1,300	645	1,018	23,538	38,487	58,377	133,073
Egypt	99	295	130	1,494	4,751	2,623	716	.....	27,886	104,582	129,367	63,613	335,556
French Africa	327	73	200	2,660	2,458	2,316	7,163	18,146	64,201	117,272	63,141	21,061	299,018
Kamerun, etc.	.....	.....	999	522	21,098	.....	.....	.....	1,820	10,174	6,998	.....	41,611
Italian Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	422	.....	422
Liberia	.....	.....	.....	13	.....	33	106	.....	66	100	.....	77	395
Madagascar	.....	.....	.....	.....	.....	4	175	40	.....	686	1,135	.....	2,040
Morocco	.....	.....	166	3,386	9,928	2,431	7,347	1,350	48,455	39,104	52,574	28,813	193,554
Portuguese Africa	910	1,222	1,585	3,431	7,064	5,339	1,160	703	2,529	44,085	10,423	19,416	97,867
Portuguese East Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,418	6,418
Spanish Africa	.....	.....	.....	103	.....	.....	.....	.....	.....	351	335	5,038	5,827
Total	$4,107,103	$5,240,266	$6,623,978	$7,853,058	$22,535,870	$27,420,849	$32,932,999	$17,344,624	$42,562,061	$86,198,013	$39,058,729	$38,298,031	$330,175,581

Passenger Car Exports

Country	1914	1915	1916	1917	1918	July 1 to Dec. 31 1918	1919	1920	1921	1922 Up to $800	1922 $800 to $2,000	1922 $2,000 & Over	Total 1922
Europe—	314	4	.....	.....	.....	.....	12	13	21	8	.....	.....	8
Austria (1914-1920 A.-Hungary)	$190,199	$2,310	.....	.....	.....	.....	$15,000	$7,927	$11,647	$3,035	.....	.....	$3,035
	20	18	6	1	.....	.....	25	12	4	8	1	.....	9
Azores & Madeira Islands	$10,771	$10,119	$2,272	$700	.....	.....	$12,078	$11,519	$3,135	$4,080	$1,400	.....	$5,480
	244	12	.....	.....	.....	.....	1,628	2,450	533	4,462	288	35	4,785
Belgium	$139,681	$15,191	.....	.....	.....	.....	$1,784,133	$2,888,057	$379,193	$1,420,501	$318,116	$97,667	$1,836,294
	43	.....	.....	.....	.....	.....	1	17	12	.....	.....	.....	.....
Bulgaria	$21,679	.....	.....	.....	.....	.....	$3,220	$21,105	$5,995	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	2	40	.....	.....	40
Czechoslovakia	.....	.....	.....	.....	.....	.....	.....	.....	$1,040	$16,456	.....	.....	$16,456
	263	219	806	1,215	2	96	2,519	1,099	109	269	249	7	525
Denmark	$176,947	$156,296	$548,971	$932,768	$4,100	$155,416	$2,961,948	$1,349,134	$159,586	$149,296	$259,397	$19,192	$427,885
	.....	.....	.....	.....	.....	.....	.....	.....	1	4	.....	.....	4
Esthonia	.....	.....	.....	.....	.....	.....	.....	.....	$2,106	.....	$3,730	.....	$3,730
	106	17	.....	.....	.....	.....	187	82	33	49	2	1	52
Finland	$83,835	$9,163	.....	.....	.....	.....	$254,378	$124,859	$44,250	$19,475	$1,953	$5,000	$26,428
	1,427	451	2,087	1,367	1,169	495	866	582	153	248	66	41	355
France	$919,060	$252,909	$1,428,325	$836,557	$1,518,858	$331,144	$1,999,773	$933,234	$359,071	$125,623	$81,464	$169,934	$377,021
	1,411	16	.....	.....	.....	.....	.....	37	22	16	25	5	46
Germany	$1,040,787	$17,364	.....	.....	.....	.....	.....	$72,319	$45,538	$5,602	$27,268	$15,078	$47,948
	64	9	15	9	.....	.....	34	86	8	.....	17	.....	17
Gibraltar	$33,030	$6,077	$16,165	$11,518	.....	.....	$27,493	$86,276	$10,653	.....	$19,979	.....	$19,979
	25	36	124	78	4	.....	269	686	122	135	16	6	157
Greece	$28,256	$28,431	$118,398	$79,913	$6,580	.....	$407,822	$876,740	$130,048	$65,271	$19,560	$16,025	$100,856
	.....	.....	.....	.....	.....	.....	.....	2	.....	8	.....	.....	8
Hungary	.....	.....	.....	.....	.....	.....	.....	$3,500	.....	$3,407	.....	.....	$3,407
	5	3	.....	11	15	25	74	31	7	.....	4	.....	4
Iceland & Faroe Islands	$2,488	$2,128	.....	$5,134	$11,396	$22,666	$58,526	$30,553	$8,450	.....	$4,278	.....	$4,278
	342	114	382	186	129	21	26	604	29	218	18	10	246
Italy	$241,466	$70,265	$217,240	$126,432	$78,228	$32,345	$59,531	$682,263	$43,321	$67,354	$22,303	$43,410	$133,067
	.....	.....	.....	.....	.....	.....	.....	.....	.....	96	3	1	100
Latvia	.....	.....	.....	.....	.....	.....	.....	.....	.....	$38,545	$3,000	$5,510	$17,055
	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Lithuania	.....	.....	.....	.....	.....	.....	.....	.....	$1,250	.....	.....	.....	.....
	1	.....	.....	.....	.....	.....	29	146	59	74	4	2	80
Malta, Gozo & Cyprus	$122	.....	.....	.....	.....	.....	$19,065	$129,504	$40,603	$27,871	$3,828	$5,550	$37,199
	141	96	439	485	.....	.....	1,169	3,103	398	389	259	40	688
Netherlands	$117,131	$131,801	$399,017	$612,495	.....	.....	$1,387,680	$3,616,862	$427,776	$243,791	$274,533	$130,288	$648,612
	145	125	732	922	97	187	1,835	3,200	55	961	212	3	1,176
Norway	$118,338	$89,357	$592,560	$944,002	$115,810	$398,266	$2,355,339	$4,025,685	$67,500	$278,772	$209,960	$7,892	$496,624
	.....	.....	.....	.....	.....	.....	.....	232	108	12	16	.....	28
Poland & Danzig	.....	.....	.....	.....	.....	.....	.....	$237,139	$94,078	7,462	$18,375	.....	$25,837
	59	14	204	283	223	26	320	540	18	11	49	2	62
Portugal	$65,545	$18,255	$198,975	$271,421	$270,987	$38,228	$405,880	$843,837	$40,331	$6,305	$55,422	$8,085	$69,812
	28	.....	2	.....	.....	.....	310	173	124	23	3	9	35
Rumania	$17,018	.....	$3,000	.....	.....	.....	$277,884	$150,634	$132,265	$8,179	$3,518	$29,467	$41,164
	926	907	1,268	780	492	6	17	101	14	196	6	1	203
Russia in Europe	$898,458	$1,527,768	$3,142,616	$943,003	$1,136,400	$6,605	$8,426	$68,449	$19,564	$91,828	$5,723	$3,212	$100,763
	83	71	364	1,125	1,205	459	1,458	3,796	421	1,148	853	110	2,111
Spain	$64,758	$59,555	$299,367	$1,195,887	$1,346,826	$610,844	$1,759,606	$5,576,482	$737,030	$496,743	$990,623	$322,701	$1,810,067
	324	137	238	390	95	1	1,546	5,398	920	2,127	927	9	3,063
Sweden	$253,588	$108,652	$180,869	$360,554	$111,377	$2,800	$2,021,948	$6,766,770	$1,039,275	$856,298	$979,248	$24,415	$1,859,961
	79	2	6	9	3	1	428	1,413	275	57	161	37	255
Switzerland	$56,838	$1,244	$4,499	$9,248	$1,533	$1,646	$472,549	$1,781,968	$409,619	$31,791	$181,471	$103,370	$316,632
	35	.....	.....	.....	.....	.....	68	593	57	85	11	.....	96
Turkey in Europe	$21,052	.....	.....	.....	.....	.....	$52,504	$544,984	$54,106	$31,560	$14,816	.....	$46,376
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	3	15
Ukraine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$13,025	$7,650	$20,675
	6,992	8,321	9,810	1,268	742	88	5,150	18,732	853	2,849	1,218	86	4,153
England	$5,615,487	$6,849,145	$6,933,806	$1,444,346	$1,712,672	$134,102	$5,573,843	$20,964,717	$793,644	$1,617,732	$1,319,520	$303,225	$3,240,477
	25	143	158	4	150	.....	25	540	7	36	31	1	68
Scotland	$46,948	$82,708	$124,138	$2,991	$217,000	.....	$34,633	$617,257	$5,025	$21,744	$29,801	$2,500	$54,045
	2	159	60	.....	.....	.....	914	902	28	68	16	1	85
Ireland	$1,593	$157,091	$55,014	.....	.....	.....	$897,065	$1,023,255	$21,349	$28,742	$17,645	$4,800	$51,187
	4	2	3	.....	.....	.....	.....	11	35	12	4	.....	16
Yugoslavia, Albania & Fiume*	$2,843	$2,950	$4,200	.....	.....	.....	.....	$10,431	$29,119	$4,611	$4,060	.....	$8,671
North and South America—	4	1	.....	12	8	6	25	20	14	9	3	.....	12
British Honduras	$3,929	$550	.....	$5,774	$6,858	$4,650	$15,598	$13,593	$9,988	$4,482	$3,396	.....	$7,878
	4,377	4,127	10,017	14,421	12,985	1,625	8,826	8,047	5,243	4,463	5,013	736	$10,212
Canada	$5,445,052	$3,723,125	$6,555,334	$11,143,740	$10,189,865	$1,461,776	$9,393,009	$10,872,591	$7,187,865	$2,594,277	$5,853,275	$2,121,329	10,568,881
	20	9	60	37	199	.....	20	91	20	21	9	.....	30
Costa Rica	$17,877	$3,897	$28,325	$23,125	$85,070	.....	$19,470	$116,291	$28,254	$12,423	$8,841	.....	$21,264
	26	10	24	35	34	2	125	185	71	27	28	3	58
Guatemala	$36,763	$12,012	$23,552	$36,174	$46,657	$1,815	$151,667	$254,551	$102,141	$20,121	$31,660	$6,711	$58,492
	4	31	34	42	16	6	22	44	35	25	9	.....	34
Honduras	$3,286	$20,422	$22,652	$24,564	$12,202	$11,093	$14,549	$42,248	$39,663	$11,065	$11,352	.....	$22,417
	.....	.....	6	5	49	28	71	157	9	.....	.....	.....	.....
Nicaragua	.....	.....	$3,109	$2,120	$32,031	$28,991	$51,923	$170,165	$11,044	.....	.....	.....	.....
	58	110	228	356	129	13	173	316	267	111	76	4	191
Panama	$51,906	$85,990	$170,964	$216,711	$93,329	$13,864	$164,698	$323,929	$277,193	$59,231	$91,357	$9,450	$160,038
	10	16	68	75	54	32	86	191	16	13	39	5	57
Salvador	$13,323	$8,888	$54,598	$62,314	$68,207	$36,884	$124,996	$287,088	$24,007	$9,227	$49,934	$13,915	$73,076
	155	70	383	2,807	2,578	770	2,850	4,089	6,750	5,331	1,775	173	7,279
Mexico	$239,166	$66,830	$309,200	$1,642,011	$1,653,545	$793,614	$2,360,346	$3,525,210	$5,183,791	$2,280,558	$1,900,309	$459,934	$4,640,801
	5	17	21	48	27	69	139	102	9	7	19	.....	26
Newfoundland & Labrador	$2,761	$11,681	$15,632	$38,910	$34,676	$72,887	$160,414	$148,518	$16,577	$3,465	$23,914	.....	$27,379
	14	19	63	121	58	4	76	144	57	22	5	.....	27
Barbados	$12,320	$8,699	$30,688	$62,364	$33,198	$3,300	$56,797	$118,663	$43,799	$8,570	$5,801	.....	$14,371
	66	80	273	335	236	43	121	421	221	273	100	5	378
Jamaica	$61,475	$61,622	$205,239	$202,375	$149,673	$39,701	$116,425	$401,789	$165,013	$138,160	$110,886	$13,615	$262,661
	47	59	128	204	161	19	182	450	124	102	18	.....	120
Trinidad & Tobago	$49,079	$40,281	$87,167	$112,014	$100,571	$18,474	$137,564	$414,674	$97,929	$16,682	$17,474	.....	$64,156
	13	38	100	124	80	24	53	153	85	132	29	12	173
Other British West Indies	$11,061	$18,463	$51,612	$80,879	$50,009	$15,603	$35,966	$127,046	$62,199	$51,350	$34,535	$37,593	$123,478
	297	1,359	3,698	3,529	2,975	871	2,887	6,293	1,692	1,291	254	144	1,689
Cuba	$254,428	$745,695	$2,091,295	$2,545,071	$3,029,813	$1,295,485	$3,121,228	$7,096,895	$1,428,162	$197,676	$331,138	$400,522	$1,229,336
	11	28	131	191	248	99	173	593	102	135	42	6	183
Dominican Republic	$15,195	$14,609	$60,127	$96,173	$157,607	$87,290	$174,204	$577,560	$85,848	$52,419	$50,918	$15,576	$118,913
	13	24	21	32	12	2	13	59	39	42	7	.....	49
Dutch West Indies	$9,605	$16,829	$10,945	$19,191	$7,435	$1,295	$7,369	$67,376	$21,059	$16,917	$8,105	.....	$25,022
	65	54	101	293	248	25	156	148	22	14	3	.....	17
French West Indies	$48,377	$34,906	$63,670	$154,990	$146,698	$21,561	$137,929	$129,713	$20,647	$5,972	$2,829	.....	$8,801
	2	.....	10	29	102	22	179	202	36	91	16	.....	107
Haiti	$1,485	.....	$3,788	$13,780	$54,613	$18,408	$158,594	$171,293	$26,173	$52,387	$19,141	.....	$71,528
	3	3	9	18	23	13	27	69	45	10	1	.....	11
Virgin Is. of U. S.	$2,954	$1,375	$3,426	$9,114	$12,313	$9,194	$20,010	$46,925	$27,359	$3,698	$1,300	.....	$1,998
	940	626	4,399	3,924	3,525	559	2,202	4,597	613	1,245	1,147	105	2,497
Argentina	$963,586	$294,129	$2,065,439	$2,336,001	$2,668,898	$708,853	$2,711,232	$5,828,057	$580,991	$783,063	$1,222,150	$301,854	$2,307,067
	4	10	26	141	152	4	14	24	4	3	5	4	12
Bolivia	$12,764	$5,462	$16,208	$100,151	$105,408	$8,548	$13,846	$39,639	$17,036	$1,503	$5,926	$11,727	$19,156
	299	81	272	873	1,575	442	3,273	6,251	285	833	782	57	1,672
Brazil	$264,992	$52,939	$157,968	$523,383	$1,000,011	$424,317	$2,580,304	$6,761,382	$418,834	$385,953	$829,549	$161,047	$1,376,549

*Yugoslavia classed as Serbia & Montenegro previous to 1920.

from 1914 to 1922

Country	1914	1915	1916	1917	1918	July 1 to Dec. 31 1918	1919	1920	1921	1922 Up to $800	1922 $800 to $2,000	1922 $2,000 & Over	Total 1922
Chile	*195*	*120*	*826*	*2,587*	*3,399*	*673*	*454*	*797*	*99*	*97*	*50*	*3*	*150*
	$160,194	$64,327	$530,211	$1,821,842	$3,576,511	$1,009,964	$700,997	$992,539	$142,288	$36,736	$59,224	$11,316	$107,276
Colombia	*79*	*39*	*97*	*173*	*164*	*30*	*253*	*962*	*122*	*104*	*60*	*8*	*172*
	$69,620	$34,956	$58,525	$118,937	$121,422	$27,542	$298,383	$1,247,976	$144,751	$45,060	$68,670	$23,511	$137,241
Ecuador	*21*	*20*	*62*	*137*	*142*	*22*	*84*	*201*	*28*	*15*	*10*	.....	*25*
	$21,229	$11,233	$44,396	$106,478	$130,086	$29,471	$111,051	$288,884	$39,461	$8,084	$10,732	.....	$18,816
Falkland Is.	.....	.....	.....	.....	.....	.....	*4*	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	$5,788	.....	.....	.....	.....	.....	.....
British Guiana	*16*	*45*	*73*	*146*	*180*	*18*	*49*	*130*	*10*	*53*	*7*	.....	*60*
	$11,364	$24,311	$33,933	$65,989	$100,546	$18,471	$39,369	$92,665	$8,498	$24,145	$6,842	.....	$30,987
Dutch Guiana	*7*	*9*	*15*	*23*	*16*	.....	*7*	*10*	*11*	*22*	*2*	.....	*24*
	$3,948	$4,492	$7,181	$11,797	$17,775	.....	$3,872	$12,706	$8,260	$10,297	$1,952	.....	$12,249
French Guiana	.....	.....	*1*	*1*	*8*	*1*	*3*	*3*	*1*	*4*	.....	.....	*4*
	.....	.....	$1,000	$498	$3,632	$318	$2,167	$5,264	$1,000	$1,932	.....	.....	$1,932
Paraguay	.....	*5*	*6*	*40*	*13*	.....	*13*	*102*	*1*	*2*	.....	.....	*2*
	.....	$2,308	$2,256	$20,192	$5,025	.....	$5,780	$64,967	$1,200	$1,304	.....	.....	$1,304
Peru	*36*	*24*	*59*	*400*	*784*	*257*	*599*	*1,297*	*76*	*40*	*14*	*8*	*62*
	$31,362	$20,658	$40,388	$295,558	$913,669	$395,753	$662,528	$1,249,546	$185,362	$19,803	$15,725	$34,085	$69,613
Uruguay	*183*	*45*	*285*	*1,165*	*2,232*	*418*	*1,844*	*4,090*	*164*	*602*	*122*	*17*	*741*
	$167,269	$25,706	$150,540	$612,838	$1,177,463	$307,221	$1,757,623	$4,055,458	$297,382	$226,121	$139,345	$49,684	$415,150
Venezuela	*126*	*227*	*518*	*542*	*160*	*38*	*293*	*883*	*275*	*328*	*91*	*30*	*449*
	$102,073	$143,086	$314,156	$327,507	$97,485	$56,021	$300,888	$821,490	$273,425	$145,627	$106,724	$91,839	$344,190
Asia—	*28*	*9*	*16*	*10*	*8*	.....	*29*	*52*	*12*	*4*	*1*	.....	*5*
Aden	$20,990	$6,706	$9,166	$7,968	$6,879	.....	$25,197	$50,387	$10,518	$2,550	$1,108	.....	$3,658
	.....	.....	.....	.....	.....	.....	.....	.....	*12*	*35*	.....	.....	*35*
Armenia, etc.	.....	.....	.....	.....	.....	.....	.....	.....	$4,519	$13,081	.....	.....	$13,081
	.....	.....	.....	.....	.....	.....	.....	.....	.....	*119*	*33*	.....	*152*
Ceylon	.....	.....	.....	.....	.....	.....	.....	.....	.....	$74,092	$33,039	.....	$107,131
	144	*122*	*264*	*509*	*833*	*409*	*1,158*	*1,774*	*499*	*352*	*217*	*10*	*579*
China	$143,619	$119,635	$191,932	$383,371	$818,659	$402,275	$1,414,844	$2,356,699	$532,803	$217,585	$228,724	$25,612	$471,921
	.....	.....	.....	*53*	*18*	*38*	*36*	*62*	*6*	*82*	*3*	*1*	*86*
Kwantung	.....	.....	.....	$27,121	$12,338	$29,335	$28,995	$68,491	$19,807	$23,594	$2,940	$2,709	$29,243
	2	*2*	*7*	*5*	*2*	*3*	*11*	*595*	*4*	*6*	.....	.....	*6*
Chosen	$1,795	$1,800	$4,780	$3,832	$1,300	$2,295	$9,272	$311,457	$1,871	$2,962	.....	.....	$2,962
	437	*315*	*2,289*	*3,603*	*73*	*27*	*2,624*	*12,014*	*820*	*673*	*398*	*8*	*1,079*
British India	$379,954	$274,680	$1,638,262	$2,644,085	$53,428	$42,756	$2,891,943	$13,865,679	$909,609	$435,562	$409,997	$24,204	$869,763
	262	*77*	*376*	*855*	*287*	*49*	*499*	*2,334*	*105*	*93*	*71*	.....	*164*
Straits Settlements	$216,659	$70,210	$239,715	$585,820	$202,221	$53,934	$572,320	$2,638,794	$149,013	$57,861	$74,648	.....	$132,509
	82	*25*	*239*	*110*	*11*	.....	*102*	*490*	*47*	.....	*1*	.....	*1*
Other British East Indies	$73,175	$20,208	$168,685	$80,033	$17,740	.....	$114,609	$540,146	$46,251	.....	$1,445	.....	$1,445
	.....	.....	.....	.....	.....	.....	.....	.....	.....	*120*	*250*	*9*	*379*
Java & Madeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	$85,808	$262,433	$26,748	$374,989
	290	*105*	*1,064*	*3,206*	*1,272*	*1,078*	*1,820*	*4,765*	*675*	.....	*19*	.....	*19*
Other Dutch East Indies	$208,722	$87,306	$753,128	$2,642,336	$1,302,800	$1,359,811	$2,369,241	$6,500,062	$1,061,059	.....	$18,836	.....	$18,836
	.....	.....	*8*	*18*	*16*	*12*	*37*	*537*	*32*	*10*	*1*	.....	*11*
French Indo China	.....	.....	$3,033	$17,967	$21,175	$18,069	$43,918	$568,961	$40,258	$3,658	$919	.....	$4,577
	.....	.....	.....	.....	.....	.....	.....	.....	*5*	*10*	.....	.....	*10*
Greece in Asia	.....	.....	.....	.....	.....	.....	.....	.....	$6,502	$3,920	.....	.....	$3,920
	.....	.....	.....	.....	.....	.....	.....	.....	*69*	*5*	*2*	.....	*7*
Hejaz, Mesopotamia, etc.	.....	.....	.....	.....	.....	.....	.....	.....	$34,964	$3,888	$1,951	.....	$5,839
	11	*2*	*15*	*3*	*117*	*86*	*144*	*214*	*76*	*11*	*36*	*12*	*59*
Hongkong	$13,043	$1,475	$10,858	$35,255	$91,228	$86,006	$188,121	$341,191	$125,143	$7,346	$36,636	$45,198	$89,180
	96	*28*	*153*	*652*	*2,139*	*1,514*	*2,805*	*2,796*	*1,281*	*1,067*	*164*	*40*	*1,271*
Japan	$100,995	$29,210	$120,061	$481,748	$2,040,897	$1,608,516	$2,890,034	$2,983,137	$983,542	$455,629	$197,528	$130,134	$783,291
	.....	.....	.....	.....	.....	.....	.....	.....	*357*	*832*	*162*	*5*	*999*
Palestine & Syria	.....	.....	.....	.....	.....	.....	.....	.....	$160,343	$388,255	$176,962	$11,311	$576,528
	.....	.....	.....	.....	*2*	*8*	*4*	*134*	*37*	*27*	.....	.....	*27*
Persia	.....	.....	.....	.....	$1,048	$4,625	$2,275	$76,718	$18,923	$9,830	.....	.....	$9,830
	12	*551*	*683*	*1,072*	*5*	*3*	*49*	*76*	.....	.....	.....	.....	.....
Russia in Asia	$14,998	$1,477,809	$529,385	$1,324,060	$8,425	$11,734	$52,145	$124,235	.....	.....	.....	.....	.....
	37	*13*	*41*	*31*	*65*	*27*	*71*	*82*	*63*	*17*	*15*	*1*	*33*
Siam	$26,219	$10,317	$32,082	$15,915	$60,220	$22,005	$70,210	$92,457	$73,498	$11,541	$15,528	$5,000	$32,069
	7	*1*	.....	.....	.....	*6*	*119*	*1,214*	*377*	*16*	.....	.....	*16*
Turkey in Asia	$5,662	$1,000	.....	.....	.....	$3,965	$116,347	$930,661	$277,746	$6,275	.....	.....	$6,275
Oceania—	*3,099*	*2,169*	*5,335*	*5,055*	*4,307*	*1,582*	*3,905*	*8,882*	*3,026*	*6,674*	*4,404*	*148*	*11,226*
Australia	$2,615,896	$1,768,479	$4,147,302	$3,792,571	$3,410,557	$1,492,899	$4,016,751	$9,936,869	$3,065,909	$3,657,597	$4,655,636	$394,157	$8,707,390
	1,065	*938*	*2,672*	*3,554*	*1,818*	*639*	*2,959*	*6,671*	*691*	*1,030*	*798*	*12*	*1,840*
New Zealand	$974,708	$784,206	$2,055,842	$2,558,118	$1,453,311	$607,807	$3,314,891	$8,190,277	$875,552	$686,887	$832,268	$32,122	$1,551,277
	9	*2*	*28*	*19*	*30*	*7*	*23*	*32*	*11*	*9*	.....	.....	*9*
Other British Oceania	$6,014	$2,081	$18,227	$11,062	$20,863	$5,955	$17,264	$34,670	$11,018	$4,821	.....	.....	$4,821
	46	*8*	*92*	*22*	*12*	*3*	*11*	*13*	*10*	*11*	*4*	.....	*15*
French Oceania	$45,184	$7,482	$56,789	$12,330	$7,612	$3,368	$11,118	$14,255	$10,643	$4,533	$4,960	.....	$9,493
	.....	*1*	*7*	*12*	*12*	*7*	*8*	*22*	*14*	*19*	.....	.....	*19*
Other Oceania	.....	$5,000	$3,208	$5,847	$11,029	$4,935	$6,285	$16,165	$10,245	$11,199	.....	.....	$11,199
	614	*407*	*861*	*1,019*	*1,714*	*603*	*2,381*	*3,452*	*467*	*349*	*176*	*25*	*550*
Philippine Is.	$697,175	$425,001	$859,450	$686,731	$1,373,204	$616,437	$2,629,348	$3,932,108	$476,483	$201,562	$188,949	$67,416	$457,927
Africa—	.....	.....	.....	.....	.....	.....	.....	*5*	.....	.....	.....	.....	.....
Abyssinia	.....	.....	.....	.....	.....	.....	.....	$2,416	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	*45*	.....	.....	*45*
Algeria and Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	17,968	.....	.....	17,968
	.....	.....	.....	.....	.....	.....	.....	*24*	*15*	*68*	.....	.....	*68*
Belgian Congo	.....	.....	.....	.....	.....	.....	.....	$16,325	$9,198	$24,732	.....	.....	$24,732
	32	*42*	*63*	*240*	*202*	*43*	*357*	*753*	*73*	*66*	*59*	*5*	*130*
British W. Africa	$18,319	$20,899	$35,361	$144,838	$115,772	$37,351	$393,405	$913,814	$77,890	$41,166	$66,506	$12,702	$120,374
	1,618	*695*	*2,859*	*3,423*	*2,142*	*541*	*3,019*	*6,688*	*596*	*681*	*1,343*	*19*	*2,043*
British S. Africa	$1,437,883	$731,278	$2,040,977	$2,378,380	$1,706,136	$530,951	$3,462,330	$7,795,194	$687,728	$483,076	$1,331,544	$54,935	$1,869,555
	49	*120*	*237*	*94*	*112*	*14*	*82*	*373*	*112*	*60*	*33*	.....	*93*
British E. Africa	$34,430	$75,188	$137,245	$55,681	$75,778	$14,445	$80,954	$432,819	$133,866	$35,973	$34,486	.....	$70,459
	15	*27*	*51*	*31*	*15*	.....	*6*	*150*	*67*	*51*	*54*	*1*	*106*
Canary Is.	$6,956	$12,015	$32,935	$24,525	$5,378	.....	$10,162	$196,216	$55,077	$25,794	$64,123	$2,400	$92,317
	22	*1*	*25*	*38*	*21*	*6*	*230*	*1,558*	*212*	*349*	*25*	.....	*374*
Egypt	$11,437	$695	$18,352	$22,113	$17,300	$20,850	$165,244	$1,553,898	$135,365	$150,970	$28,911	.....	$179,881
	19	.....	*2*	*41*	*121*	*89*	*198*	*369*	*94*	*50*	.....	.....	*50*
French Africa	$17,273	.....	$1,155	$13,315	$50,550	$52,757	$144,023	$201,720	$69,718	$21,092	.....	.....	$21,092
	.....	.....	.....	*3*	.....	.....	.....	*5*	.....	.....	.....	.....	.....
Italian Africa	.....	.....	.....	$1,200	.....	.....	.....	$3,075	.....	.....	.....	.....	.....
	19	*7*	*20*	.....	.....	.....	*7*	*44*	*5*	.....	.....	.....	.....
Kamerun, etc.	$14,136	$4,865	$7,760	.....	.....	.....	$3,721	$27,976	$2,890	.....	.....	.....	.....
	.....	.....	.....	*1*	*12*	.....	.....	*1*	.....	*1*	.....	.....	*1*
Liberia	.....	.....	.....	$975	$4,220	.....	.....	$1,205	.....	$685	.....	.....	$685
	.....	.....	*7*	*1*	*2*	.....	.....	*3*	.....	.....	.....	.....	.....
Madagascar	.....	.....	$2,532	$808	$1,659	.....	.....	$3,000	.....	.....	.....	.....	.....
	63	*25*	*52*	*87*	*35*	.....	*237*	*364*	*80*	*119*	*9*	.....	*128*
Morocco	$29,497	$10,847	$20,574	$39,670	$17,718	.....	$162,016	$340,490	$61,485	$53,313	$9,427	.....	$62,740
	24	*6*	*56*	*7*	*9*	*12*	*18*	*244*	*31*	*73*	*4*	.....	*77*
Portuguese Africa	$21,563	$7,301	$38,510	$5,429	$9,673	$8,598	$16,636	$282,203	$23,562	$33,167	$2,789	.....	$35,956
	.....	.....	.....	.....	.....	.....	.....	.....	.....	*11*	*11*	.....	*22*
Portuguese East Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	$7,153	$9,778	.....	$16,931
	.....	.....	.....	.....	.....	.....	.....	.....	*2*	*10*	*9*	*1*	*20*
Spanish Africa	.....	.....	.....	.....	.....	.....	.....	.....	$6,950	$7,518	$11,250	$2,692	$21,460
	28,306	*23,880*	*56,234*	*64,808*	*52,312*	*14,345*	*67,145*	*142,508*	*30,950*	*42,227*	*22,513*	*2,027*	*66,767*
Totals	$25,392,963	$21,113,953	$40,660,263	$48,612,632	$45,331,366	$15,698,106	$73,700,327	$165,255,921	$32,533,725	$20,503,025	$24,610,341	$5,925,969	$51,039,335

Truck Exports

Country	1914	1915	1916	1917	1918	July 1 to Dec. 31, 1918	1919	1920	1921	1922			Total 1922
										Up to 1 Ton	Over 1 Ton to 2½	Over 2½ Tons	
Austria (Prior to 1920 A. Hungary)	3						10	3	1	2			2
	$7,455						$18,500	$1,348	$520	$768			$768
Azores & Madeira Isl.							3	1	3	7			7
Belgium		100					$3,816	$3,650	$1,369	$2,968			$2,968
		$365,000					138	195	169	2,801	23		2,824
Bulgaria							$307,778	$209,985	$77,756	$720,754	$14,896		$735,650
Czechoslovakia								4					
								$9,723					
Denmark		44	41	58	2		643	296	18	5			5
		$25,033	$36,413	$81,414	$3,800		$1,339,380	$615,448	$33,375	$2,122			$2,122
Esthonia										19	6	1	26
										$5,182	$8,253	$2,224	$15,659
Finland										1	1		1
											$1,315		$1,315
France	2	4,990	5,681	4,264	2,754	2,025	10	104	6	32	1		33
	$5,070	$13,523,843	$17,709,579	$13,854,903	$10,001,626	$8,011,335	$12,783	$212,594	$6,000	$10,245	$3,200		$13,445
Germany	24	4					3,521	135	10	4	7	4	15
	$18,462	$2,800					$15,143,226	$434,943	$14,991	$1,369	$12,046	$4,983	$18,398
Gibraltar								47	1	3	21		24
								$41,958	$535	$1,213	$50,675		$51,888
Greece					27			3					
	1	142	45	3	$58,325			$4,756					
	$1,800	$426,570	$98,815	$2,000	14		37	71	26	8			8
Hungary					$32,000		$80,891	$110,773	$28,846	$3,232			$3,232
Iceland & Faroe Isl.								1		1			1
								$3,164		$389			$389
Italy					1		26	38					
	1	1	5	65	$2,245		$21,661	$22,321					
	$1,229	$8,000	$14,655	$159,775	52	26	7	37	2	32			32
Latvia					$28,055	$87,577	$24,310	$67,775	$899	$7,212			$7,212
Malta, Gozo & Cypress												1	7
											$425	$20,800	8
								9	4	4	1		$21,225
Netherlands	1	9	50	36				$11,557	$1,666	$1,536	$1,200		5
	$1,452	$19,069	$93,797	$55,305			122	528	300	78	7	4	$2,736
Norway	2	3	81	162	40	83	$294,772	$593,491	$207,932	$36,039	$10,439	$4,880	89
	$3,852	$4,689	$121,480	$266,741	$133,227	$212,574	815	829	20	207	22		$51,358
Poland & Danzig							$1,787,473	$1,434,715	$28,461	$63,716	$21,985		229
								22	28	1			$85,701
Portugal	8	5	295	21	12	10	30	$35,473	$61,368	$650			1
	$12,075	$10,291	$1,117,681	$45,087	$36,914	$42,300	$76,728	156	1	3			$650
Rumania								$284,197	$3,650	$1,404			3
							114	75	15	1	2		$1,404
Russia in Europe	2	2,251	3,909	1,733	406		$94,951	$89,370	$25,102	$404	$3,766		3
	$5,322	$7,666,883	$12,544,258	$5,428,979	$1,562,303		2	104	32	67	2		$4,170
Yugoslavia, Albania & Fiume		10	20				$2,503	$59,535	$25,100	$32,362	$900		69
		$6,300	$65,000				4	3	2	1			$33,262
Spain		1	30	29	46	33	$5,700	$1,511	$1,430	$414			1
		$1,800	$57,277	$55,808	$97,910	$87,180	209	567	27	775	9	2	$414
Sweden	1	10	19	6	7		$409,493	$1,004,833	$49,592	$192,522	$10,661	$4,133	786
	$900	$17,600	$29,050	$10,879	$10,360		211	821	64	366	20	1	$207,316
Switzerland							$444,695	$1,416,124	$133,690	$105,641	$25,155	$2,192	387
							33	78	7				$132,988
Turkey in Europe	1	2					$40,044	$49,767	$14,677				
	$2,000	$8,009					82	120	5	12	4		16
Ukraine							$118,005	$165,400	$16,715	$4,192	$7,504		$11,696
								1		2	5		7
England	203	5,306	8,268	6,525	4,805	830	890	4,995	$600	$1,500	$17,000		$18,500
	$189,099	$14,042,325	$18,723,403	$17,061,105	$13,438 981	$2,456,993	$1,342,575	$7,148,880	$423,020	80	286	12	378
Scotland		4	224		447		2	162	5	$67,251	$291,080	$16,630	$374,961
		$11,250	$271,745		$1,203,328		$1,779	$183,955	$7,290	2	2		4
Ireland		1	8			2	15	45		$2,080	$4,000		$6,080
		$7,033	$39,776			$4,276	$19,948	$40,555		1			1
British Honduras					2	1		20	2	$506			$506
					$3,700	$834		$14,442	$709	1			1
Canada	247	306	387	636	1,108	895	1,858	2,149	1,146	$354			$354
	$474,724	$705,213	$724,817	$945,047	$1,381,542	$1,192,833	$2,896,325	$4,187,597	$1,798,855	326	656	278	1,260
Costa Rica	8	2		1	5		1	14	13	$237,550	$849,122	$784,657	$1,871,329
	$10,571	$4,165		$900	$10,245		$504	$22,553	$24,920	3	3		6
Guatemala			2	4	3		10	25	7	$1,246	$3,512		$4,758
			$4,916	$4,323	$5,512		$16,761	$38,105	$5,920		6		6
Honduras		6	6	4	6		7	19	6		$7,674		$7,674
		$12,500	$14,540	$4,094	$3,373		$9,589	$20,770	$15,555	4	5	2	11
Nicaragua			1		1	2	11	23	5	$1,595	$7,607	$7,600	$16,802
			$2,500		$2,509	$5,742	$16,026	$32,253	$14,200	1			1
Panama	5	6	32	75	47	16	38	68	71	$1,400			$1,400
	$7,243	$12,010	$55,171	$97,970	$47,859	$20,504	$39,148	$56,127	$98,790	26			26
Salvador			1		4	1	4	42	1	$10,240			$10,240
			$1,300	$868	$14,811	$175	$8,897	$118,585	$3,166		1		1
Greenland											$3,220		$3,220
Mexico	12	8	51	218	365	201	938	1,281	1,482	775	157	51	983
	$17,509	$14,492	$100,500	$198,151	$525,664	$260,968	$1,205,664	$1,973,994	$1,554,554	$317,123	$194,949	$105,013	$617,085
Miquelon, Langley, Etc.							6						
							$6,000						
Newfoundland & Labrador	1	1	1	1	2	5	10	12	3				
	$1,221	$750	$1,692	$2,675	$7,250	$2,997	$23,306	$54,907	$6,275				
Barbados				1	2	5	15	58	3	7	3		10
				$1,506	$3,400	$11,792	$14,394	$52,148	$1,800	$9,733	$5,438		$15,171
Jamaica	3	3	9	6	10	2	36	215	43	97	15	1	113
	$9,250	$7,292	$18,524	$8,285	$6,775	$800	$42,828	$313,578	$51,469	$41,539	$21,996	$150	$63,685
Trinidad & Tobago	1		2	2	14	7	69	202	70	37	6		43
	$2,000		$1,974	$5,722	$18,361	$15,089	$86,479	$271,451	$66,201	$16,562	$9,025		$25,587
Other British West Indies			6	1	28	4	25	56	22	59	18	9	86
			$11,327	$500	$89,914	$3,304	$14,301	$38,168	$17,626	$23,879	$20,492	$42,281	$86,652
Cuba	19	21	117	397	554	279	915	1,953	283	251	35	4	290
	$33,500	$34,607	$176,647	$722,519	$1,130,982	$539,070	$1,955,509	$4,937,281	$366,710	$81,335	$37,790	$12,036	$131,161
Dominican Republic	1	2	4	22	21	8	48	213	18	18	8	2	28
	$1,800	$3,372	$5,173	$23,640	$13,323	$11,597	$75,953	$226,982	$52,473	$7,592	$16,491	$3,966	$28,049
Dutch West Indies	1	1		2			3	18	6	6	1	1	8
	$595	$1,463		$2,095			$3,095	$8,542	$3,720	$2,467	$2,000	$3,500	$7,967
French West Indies		2	1	7	26	2	58	71	13	1			1
		$3,975	$2,310	$13,305	$49,626	$3,650	$77,085	$55,607	$7,940	$364			$364
Haiti				2	11	2	8	27	14	5	5		10
				$1,324	$10,578	$1,200	$6,798	$51,358	$6,281	$2,040	$7,859		$9,899
Virgin Islands of U. S.					2		1	8	7	4			4
					$2,845		$3,350	$16,789	$5,701	$1,553			$1,553
Argentina	48	3	45	141	51	3	145	352	24	29	20	9	58
	$65,225	$2,910	$33,063	$146,255	$50,124	$4,094	$291,430	$825,333	$70,111	$14,168	$31,004	$23,008	$68,180
Bolivia				20	14	12	8	13		7			7
				$48,590	$24,958	$38,716	$12,376	$21,895		$2,812			$2,812

from 1914 to 1922

Country	1914	1915	1916	1917	1918	July 1 to Dec. 31, 1918	1919	1920	1921	1922 Up to 1 Ton	1922 Over 1 Ton 2½ Tons	1922 Over 2½ Ton	Total 1922
Brazil	*13*	*3*	*11*	*14*	*24*	*21*	*200*	*1,540*	*103*	*41*	.....	*24*	*65*
	$20,449	$2,861	$19,635	$8,300	$31,133	$19,167	$199,738	$1,191,577	$354,810	$10,349	.....	$73,418	$83,767
Chile	*2*	.....	*17*	*69*	*220*	*85*	*88*	*299*	*45*	*105*	*7*	*1*	*113*
	$10,743	.....	$46,566	$160,696	$282,638	$136,376	$131,055	$326,216	$64,636	$48,809	$9,659	$3,342	$61,810
Colombia	.....	*1*	*4*	*2*	*3*	*2*	*38*	*275*	*35*	*19*	*7*	*9*	*35*
	.....	$1,237	$1,236	$4,998	$7,100	$3,285	$39,341	$291,410	$66,440	$11,729	$11,917	$33,842	$57,488
Ecuador	.....	.....	*2*	*1*	*3*	*4*	*5*	*46*	*20*	*8*	*2*	*2*	*12*
	.....	.....	$3,378	$2,050	$6,876	$6,520	$6,865	$85,895	$41,982	$6,838	$2,510	$7,428	$16,776
Falkland Islands	.....	.....	.....	.....	.....	.....	.....	.....	*1*	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	$545	.....	.....	.....	.....
British Guiana	.....	*1*	.....	*1*	*7*	*1*	*35*	*123*	*5*	*1*	.....	.....	*1*
	.....	$900	.....	$1,529	$5,100	$2,600	$24,119	$72,966	$7,686	$358	.....	.....	$358
Dutch Guiana	.....	.....	*1*	.....	.....	*1*	*1*	*6*	.....	*4*	*1*	.....	*5*
	.....	.....	$1,037	.....	.....	$1,000	$506	$4,111	.....	$1,614	$475	.....	$2,089
French Guiana	.....	.....	.....	.....	.....	.....	*4*	*1*	.....	*1*	.....	.....	*1*
	.....	.....	.....	.....	.....	.....	$2,061	$3,061	.....	$404	.....	.....	$404
Peru	*3*	*2*	*5*	*25*	*73*	*52*	*207*	*900*	*52*	*70*	*8*	*2*	*80*
	$5,301	$3,484	$5,830	$48,776	$155,834	$139,295	$215,175	$775,398	$89,401	$29,627	$7,683	$9,800	$47,110
Uruguay	*1*	.....	*2*	*4*	*16*	*2*	*68*	*113*	*81*	*138*	*17*	*1*	*156*
	$865	.....	$5,818	$10,437	$15,809	$2,000	$79,196	$113,479	$34,713	$37,357	$11,151	$4,805	$53,313
Venezuela	*12*	*3*	*6*	*14*	*16*	*2*	*41*	*186*	*13*	*24*	*8*	.....	*32*
	$28,228	$7,164	$13,029	$28,502	$12,410	$2,200	$24,579	$144,308	$18,911	$10,514	$15,084	.....	$25,598
Aden	.....	.....	.....	.....	.....	.....	*1*	*2*	.....	.....	*1*	.....	*1*
	.....	.....	.....	.....	.....	.....	$922	$7,188	.....	.....	$1,400	.....	$1,400
Armenian Kurdistan	.....	.....	.....	.....	.....	.....	.....	.....	.....	*4*	.....	.....	*4*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	$2,803	.....	.....	$2,803
Ceylon	.....	.....	.....	.....	.....	.....	.....	.....	.....	*1*	*5*	*5*	*11*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	$1,213	$8,230	$15,631	$25,074
China	*7*	.....	*39*	*9*	*23*	*31*	*273*	*261*	*71*	*26*	*35*	*1*	*62*
	$12,700	.....	$89,799	$14,287	$26,236	$46,595	$596,715	$464,785	$105,485	$13,844	$32,635	$1,516	$47,995
Kwantung	.....	*1*	.....	.....	.....	.....	*4*	*1*	*13*	.....	*5*	*1*	*6*
	.....	$2,451	.....	.....	.....	.....	$6,335	$1,763	$26,435	.....	$1,820	$2,400	$4,220
Chosen	.....	.....	*3*	.....	*2*	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	$5,027	.....	$1,629	.....	.....	.....	.....	.....	.....	.....	.....
British India	*7*	*7*	*135*	*126*	*11*	*1*	*260*	*1,612*	*132*	*22*	*76*	*8*	*106*
	$12,091	$8,680	$208,067	$205,023	$20,275	$2,118	$563,339	$3,262,328	$269,760	$20,969	$99,477	$8,999	$129,445
Straits Settlements	*7*	.....	*17*	*57*	*70*	*44*	*115*	*447*	*63*	.....	.....	.....	.....
	$14,381	.....	$25,169	$61,881	$113,554	$64,425	$229,624	$857,410	$158,487	.....	.....	.....	.....
Other British East Indies	.....	*1*	*20*	*26*	*3*	.....	*16*	*69*	*4*	.....	.....	.....	.....
	.....	$3,300	$27,841	$38,970	$7,138	.....	$27,700	$152,849	$4,192	.....	.....	.....	.....
Java & Madura	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*1*	*1*	*2*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$3,925	$3,220	$7,145
Other Dutch East Indies	*7*	*11*	*58*	*108*	*68*	*139*	*324*	*1,182*	*369*	.....	*7*	.....	*7*
	$14,232	$9,567	$82,586	$137,609	$162,749	$313,725	$689,225	$2,920,663	$922,997	.....	$6,761	.....	$6,761
Far Eastern Republic	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*3*	.....	*3*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$4,906	.....	$4,906
French Indo China	.....	.....	.....	.....	*2*	*3*	*16*	*141*	*8*	.....	*1*	.....	*1*
	.....	.....	.....	.....	$3,500	$7,290	$11,556	$117,984	$7,522	.....	$1,080	.....	$1,080
Greece in Asia	.....	.....	.....	.....	.....	.....	.....	.....	*2*	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	$734	.....	.....	.....	.....
Hejaz, Arabia, etc	.....	.....	.....	.....	.....	.....	.....	.....	*14*	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	$10,663	.....	.....	.....	.....
Hongkong	.....	*1*	*3*	.....	*8*	*8*	*19*	*26*	*29*	*3*	*3*	*3*	*9*
	.....	$780	$6,304	.....	$5,371	$10,500	$25,547	$55,377	$80,450	$6,660	$5,610	$5,500	$17,770
Japan	*1*	*1*	*15*	*70*	*279*	*381*	*1,143*	*1,233*	*756*	*724*	*190*	*87*	*1,001*
	$900	$3,382	$14,528	$59,198	$317,787	$636,692	$1,736,439	$1,590,760	$634,867	$318,176	$245,845	$347,275	$911,296
Palestine & Syria	.....	.....	.....	.....	.....	.....	.....	.....	*12*	*43*	*9*	.....	*52*
	.....	.....	.....	.....	.....	.....	.....	.....	$12,694	$22,403	$14,651	.....	$37,054
Persia	.....	.....	.....	.....	*4*	.....	.....	*20*	.....	.....	.....	.....	.....
	.....	.....	.....	.....	$2,712	.....	.....	$10,601	.....	.....	.....	.....	.....
Russia in Asia	.....	*596*	*1,170*	*515*	.....	*15*	*21*	*9*	.....	.....	.....	.....	.....
	.....	$1,903,221	$3,546,435	$1,662,144	.....	$18,200	$41,482	$18,491	.....	.....	.....	.....	.....
Siam	.....	.....	*9*	*8*	*6*	*2*	*8*	*5*	.....	*1*	.....	*3*	*4*
	.....	.....	$7,036	$6,700	$4,535	$4,867	$12,411	$8,965	.....	$1,400	.....	$6,488	$7,888
Turkey in Asia	*1*	*5*	.....	*2*	.....	.....	*14*	*93*	*41*	.....	.....	.....	.....
	$1,354	$26,282	.....	$1,143	.....	.....	$27,695	$126,775	$62,627	.....	.....	.....	.....
Australia	*32*	*57*	*201*	*194*	*109*	*15*	*418*	*986*	*720*	*311*	*644*	*114*	*1,069*
	$37,378	$84,142	$295,538	$237,159	$163,405	$26,274	$565,406	$1,439,774	$1,194,900	$302,352	$729,370	$188,477	$1,220,199
New Zealand	*39*	*20*	*93*	*75*	*74*	*52*	*225*	*522*	*161*	*43*	*109*	*39*	*191*
	$61,599	$31,575	$149,848	$119,833	$145,764	$59,690	$501,488	$1,156,310	$341,449	$56,781	$169,328	$105,091	$331,200
Other British Oceania	.....	.....	*2*	*1*	*2*	.....	*9*	*6*	*1*	.....	.....	.....	.....
	.....	.....	$2,612	$1,688	$2,404	.....	$9,779	$6,250	$2,168	.....	.....	.....	.....
French Oceania	*4*	.....	*1*	*2*	*5*	*1*	*1*	*4*	.....	*1*	.....	.....	*1*
	$7,625	.....	$860	$2,750	$6,480	$1,000	$600	$9,858	.....	$590	.....	.....	$590
Other Oceania	.....	.....	*1*	*3*	*4*	*2*	*8*	*9*	*1*	.....	.....	.....	.....
	.....	.....	$1,530	$2,377	$5,518	$2,213	$7,020	$4,706	$500	.....	.....	.....	.....
Philippine Islands	*38*	*27*	*58*	*53*	*163*	*32*	*516*	*1,155*	*234*	*13*	*10*	*6*	*29*
	$64,805	$62,132	$88,286	$57,457	$215,106	$56,815	$798,540	$1,818,221	$221,650	$8,450	$13,387	$9,455	$31,292
Algeria and Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	*8*	.....	.....	*8*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	[$2,913	.....	.....	$2,913
Belgian Kongo	.....	.....	.....	.....	.....	.....	*3*	*13*	*35*	*82*	.....	.....	*82*
	.....	.....	.....	.....	.....	.....	$3,196	$8,470	$20,435	$29,760	.....	.....	$29,760
British West Africa	*1*	.....	*7*	*115*	*27*	*13*	*215*	*780*	*33*	*61*	*44*	.....	*105*
	$1,260	.....	$13,173	$124,574	$20,136	$15,097	$254,836	$1,137,335	$49,109	$50,493	$50,983	.....	$101,476
British South Africa	*12*	*15*	*36*	*34*	*70*	*23*	*57*	*244*	*58*	*25*	*25*	*27*	*77*
	$11,539	$40,280	$54,519	$82,957	$107,085	$26,750	$102,992	$425,129	$104,544	[$23,966	$35,860	$69,572	$129,398
British East Africa	.....	.....	.....	.....	*1*	.....	*6*	*8*	*2*	.....	.....	.....	.....
	.....	.....	.....	.....	$787	.....	$5,010	$17,338	$6,000	.....	.....	.....	.....
Canary Islands	*1*	.....	.....	*1*	.....	.....	*5*	*11*	*18*	*37*	*6*	*3*	*46*
	$1,203	.....	.....	$575	.....	.....	$4,312	$32,311	$16,539	$17,848	$8,582	$4,264	$30,694
Egypt	.....	.....	.....	*4*	.....	.....	*15*	*74*	*44*	*27*	.....	.....	*27*
	.....	.....	.....	$9,624	.....	.....	$13,285	$69,492	$40,367	$11,571	.....	.....	$11,571
French Africa	.....	.....	.....	.....	*18*	*11*	*44*	*339*	*11*	*12*	.....	.....	*12*
	.....	.....	.....	.....	$12,963	$9,217	$47,157	$355,125	$5,632	$5,897	.....	.....	$5,897
Italian Africa	.....	.....	.....	.....	.....	.....	.....	*5*	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	$11,500	.....	.....	.....	.....	.....
Kamerun, Etc	.....	.....	.....	.....	.....	.....	*7*	*21*	*5*	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	$3,544	$20,736	$1,944	.....	.....	.....	.....
Liberia	.....	.....	.....	.....	.....	.....	.....	*2*	.....	*1*	.....	.....	*1*
	.....	.....	.....	.....	.....	.....	.....	$1,156	.....	$500	.....	.....	$500
Morocco	.....	.....	*7*	.....	.....	.....	*13*	*44*	*20*	*6*	*1*	.....	*7*
	.....	.....	$9,675	.....	.....	.....	$13,410	$24,376	$9,075	$2,424	$650	.....	$3,074
Portuguese Africa	*1*	.....	*1*	*1*	.....	*4*	*4*	*34*	*11*	*108*	*3*	.....	*111*
	$2,604	.....	$2,803	$2,500	.....	$7,725	$6,408	$34,950	$7,984	$44,262	$1,522	.....	$45,784
Portuguese East Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	*1*	.....	.....	*1*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	$800	.....	.....	$800
Spanish Africa	.....	.....	.....	.....	.....	.....	.....	.....	*1*	.....	*1*	.....	*1*
	.....	.....	.....	.....	.....	.....	.....	$2,118	.....	.....	$1,080	.....	$1,080
Totals	*784*	*13,996*	*21,265*	*15,977*	*12,200*	*5,401*	*15,585*	*29,136*	*7,480*	*8,142*	*2,588*	*725*	*11,455*
	$1,181,611	$39,140,682	$56,805,548	$42,343,502	$31,874,459	$14,637,236	$35,425,437	$46,775,781	$10,335,893	$3,142,897	$3,198,260	$1,938,576	$8,279,733

Motorcycle Exports

	1913	1914	1915	1916	1917	1918	July 1 Dec. 31 1918	Calendar Year 1919	1920	1921	1922	Total 1913 to 1922
Europe:												
Austria (Prior 1920 A.-Hungary)		29	7					8		13	8	65
		$5,875	$1,535					$1,620		$4,581	$2,050	$15,661
Azores, and Madeira Islands				1				2	21	8	4	36
				$228				$500	$6,797	$2,070	$1,188	$10,783
Belgium	25	65	1					571	1,033	532	1,027	3,254
	$5,176	$11,803	$151					$143,231	$323,344	$175,212	$274,690	$936,607
Bulgaria									1	2		3
									$108	$453		$561
Czechoslovakia										33	87	120
										$10,704	$16,742	$27,446
Denmark	38	239	149	784	757	2	11	1,281	741	582	636	5,220
	$6,269	$43,325	$24,163	$128,186	$135,787	$650	$3,850	$348,265	$208,406	$193,828	$165,327	$1,258,056
Esthonia										13	22	35
										$3,992	$5,790	$9,782
Finland	21	78						149	259	111	74	692
	$4,479	$13,798						$38,015	$80,516	$41,860	$18,022	$196,690
France	39	132	56	216	78	90		272	672	292	358	2,205
	$8,043	$29,663	$11,573	$36,121	$14,562	$20,946		$84,421	$164,406	$79,278	$83,854	$532,867
Germany	96	231	2						5	7	73	414
	$17,525	$48,201	$597						$1,227	$2,350	$18,773	$88,673
Gibraltar	2				3						1	6
	$338				$495						$345	$1,178
Greece		15		4	1	1		16	18	23	3	81
		$2,230		$868	$293	$400		$5,064	$5,447	$8,337	$483	$23,122
Iceland, and Faroe Islands						8	10	22				40
						$2,000	$2,755	$7,048				$11,803
Italy	115	342	121	790	1,666	1,940	562	1,069	2,281	571	953	10,410
	$23,298	$70,054	$24,190	$147,223	$349,667	$464,661	$121,578	$296,584	$652,450	$173,316	$236,509	$2,559,530
Latvia										10		10
										$3,667		$3,667
Malta, Gozo and Cyprus Islands										1	12	37
									$6,210	$225	$2,530	$8,965
Netherlands	18	89	348	998	1,224			2,656	5,181	1,938	2,251	14,703
	$4,570	$17,885	$67,962	$190,512	$237,008			$716,681	$1,433,854	$614,580	$605,642	$3,888,694
Norway	3	40	114	227	758	86	80	1,787	1,788	385	456	5,724
	$805	$8,009	$20,656	$41,943	$162,126	$21,414	$19,870	$518,472	$517,432	$133,309	$115,600	$1,559,636
Poland and Danzig									25	1		26
									$12,288	$271		$12,559
Portugal	16	89	91	197	241	222	125	341	228	18	90	1,658
	$3,424	$19,014	$18,609	$41,031	$57,981	$56,045	$27,821	$103,882	$74,350	$6,520	$25,856	$434,533
Rumania									4		3	7
									$1,644		$1,083	$2,727
Russia in Europe	85	408	649	2,103	14					7		3,266
	$17,819	$75,505	$137,771	$494,338	$1,679					$2,235		$729,347
Spain	40	76	122	206	703	426	226	1,079	1,416	332	793	5,419
	$9,220	$16,443	$21,472	$36,040	$146,398	$90,162	$58,550	$293,332	$457,841	$103,189	$211,268	$1,443,915
Sweden	14	179	90	457	1,059	73		2,651	5,888	1,328	427	12,166
	$3,162	$34,106	$18,556	$88,325	$245,062	$13,071		$776,120	$1,671,765	$421,888	$93,902	$3,365,957
Switzerland		5	6			2		145	591	84	176	1,009
		$1,229	$1,327			$393		$41,590	$161,020	$32,960	$49,197	$287,716
Turkey in Europe	1							30	39			70
	$262							$7,405	$12,036			$19,703
England	1,036	1,604	3,324	3,797	287	28		1,158	2,783	567	591	15,175
	$203,734	$320,009	$578,836	$732,582	$61,710	$5,706		$326,307	$786,419	$183,132	$147,801	$3,346,236
Scotland	4	16	33	109				14	117	5	5	303
	$828	$3,284	$8,393	$21,900				$3,747	$35,786	$1,543	$1,243	$76,724
Ireland				50				3	2	4	2	61
				$10,738				$395	$624	$800	$225	$12,782
Yugoslavia, Albania & Fiume											3	3
											$839	$839
North and South America:												
British Honduras						1		1	1		1	4
						$39		$75	$83		$155	$352
Canada	1,335	1,065	832	927	1,064	1,041	299	1,654	1,313	506	711	10,747
	$236,362	$193,987	$140,015	$148,409	$196,645	$198,738	$65,136	$380,325	$339,350	$157,401	$171,908	$2,228,276
Costa Rica	6			2	3				5	1	2	19
	$1,174			$1,418	$450				$1,542	$384	$295	$5,263
Guatemala	3	5	2	4	31	28		45	41	25	13	197
	$671	$1,242	$442	$804	$8,125	$5,033		$13,051	$13,085	$8,749	$3,669	$54,871
Honduras			5	4	2	2		3	5	4	4	29
			$1,159	$330	$400	$575		$961	$1,371	$1,224	$812	$6,832
Nicaragua				1	2	1	4	5	24	6	30	73
				$200	$462	$290	$987	$1,860	$7,748	$3,421	$4,464	$19,432
Panama	27	32	59	76	61	62	5	30	27	35	18	432
	$6,238	$7,725	$12,637	$15,387	$15,574	$16,710	$1,037	$8,373	$8,264	$12,097	$4,659	$108,701
Salvador	1		3		8	20	12	18	18	11	1	92
	$200		$919		$1,638	$4,458	$3,212	$5,849	$5,815	$4,407	$315	$26,813
Mexico	48	26	8	51	102	59	14	36	61	59	149	653
	$9,593	$5,481	$1,897	$9,877	$23,360	$14,622	$3,717	$10,465	$17,829	$32,442	$40,191	$169,474
Newfoundland and Labrador	3	8	7	12	5	3		4	1	1		44
	$717	$1,998	$1,226	$2,505	$1,062	$750		$726	$470	$850		$9,504
Barbados		6	11	5	11	14	2	5	8	5	5	72
		$1,455	$2,585	$757	$2,204	$2,763	$599	$1,274	$2,999	$1,702	$1,236	$17,575
Jamaica	2	7	8	18	32	30	9	15	58	23	9	211
	$500	$1,685	$1,625	$3,080	$4,672	$5,327	$1,524	$3,441	$16,947	$5,502	$1,456	$45,759
Trinidad and Tobago		16	14	12	26	14	4	10	18	5	22	141
		$4,086	$2,833	$2,506	$5,318	$2,452	$886	$2,647	$6,043	$1,725	$6,559	$35,055
Other British West Indies				2	10	31		9	17	3	11	83
				$480	$1,949	$4,167		$1,884	$4,863	$500	$1,931	$15,774
Cuba	43	80	75	66	73	165	50	175	221	60	22	1,030
	$8,285	$15,980	$13,880	$12,217	$15,076	$36,408	$12,899	$46,330	$60,018	$19,157	$5,156	$245,406
Dominican Republic	14	2		12	10	10	4	21	29	8	2	112
	$2,945	$376		$1,733	$1,173	$1,029	$836	$5,412	$9,151	$3,179	$511	$26,345
Dutch West Indies	1	1	1		2	3		1	1	2	10	22
	$166	$150	$196		$368	$904		$300	$387	$694	$2,338	$5,503
French West Indies			2		5	4	2	25	1		2	41
			$484		$900	$636	$500	$6,421	$250		$489	$9,680
Haiti	1				4	14	2	12	9	1	2	45
	$62				$1,015	$4,026	$315	$3,651	$2,089	$282	$623	$12,073
Virgin Islands of United States	1	4					2	2	2	3	1	15
	$146	$630					$405	$457	$966	$678	$100	$3,382
Argentina	163	110	69	111	173	227	81	437	597	125	215	2,308
	$30,330	$23,470	$12,798	$20,299	$35,929	$48,655	$19,663	$125,929	$171,615	$41,440	$55,013	$585,141
Bolivia		1		9	7	11		4	6		13	51
		$261		$1,606	$1,918	$2,151		$1,560	$1,694		$3,420	$12,610
Brazil	57	61	43	78	88	94	18	247	268	1	33	988
	$12,090	$10,935	$7,743	$9,966	$16,051	$23,387	$4,583	$82,835	$81,485	$488	$8,478	$258,041

from 1913 to 1922

	1913	1914	1915	1916	1917	1918	July 1 Dec. 31 1918	Calendar Year 1919	1920	1921	1922	Total 1913 to 1922
Chile	*39*	*37*	*2*	*14*	*34*	*88*	*6*	*67*	*130*	*1*	*6*	*424*
	$8,134	$7,967	$570	$2,406	$6,389	$18,041	$1,572	$17,518	$37,588	$400	$1,432	$102,017
Colombia	*4*	*9*	*11*	*12*	*11*	*13*	*5*	*8*	*24*	*3*	*8*	*108*
	$900	$2,066	$2,359	$2,607	$2,128	$2,472	$740	$2,067	$8,082	$450	$1,399	$25,270
Ecuador	*2*	*6*	*1*	*7*	*13*	*11*	*3*	*10*	*34*	.....	*1*	*88*
	$436	$852	$135	$1,493	$3,111	$2,216	$798	$2,864	$9,483	.....	$301	$21,689
Guiana, British	*2*	*8*	*7*	*8*	*30*	*55*	.....	.....	.....	.....	.....	*110*
	$338	$1,523	$1,356	$1,383	$5,047	$8,828	.....	.....	.....	.....	.....	$18,475
Dutch	.....	.....	.....	.....	.....	.....	.....	.....	*4*	*1*	.....	*5*
	.....	.....	.....	.....	.....	.....	.....	.....	$1,695	$480	.....	$2,175
French	.....	.....	.....	.....	.....	.....	.....	*1*	.....	.....	.....	*1*
	.....	.....	.....	.....	.....	.....	.....	$120	.....	.....	.....	$120
Paraguay	.....	.....	.....	*1*	.....	.....	.....	.....	*1*	.....	.....	*2*
	.....	.....	.....	$196	.....	.....	.....	.....	$312	.....	.....	$508
Peru	.....	*3*	*3*	*8*	*25*	*5*	*6*	*1*	*18*	*5*	*11*	*85*
	.....	$632	$847	$1,576	$4,546	$1,103	$1,170	$370	$4,918	$1,500	$2,612	$19,274
Uruguay	*15*	*10*	.....	*21*	*49*	*26*	*17*	*90*	*133*	*21*	*28*	*410*
	$2,921	$2,409	.....	$4,743	$9,207	$5,892	$4,935	$22,715	$40,767	$6,766	$7,145	$107,500
Venezuela	*18*	*23*	*4*	*4*	*22*	*2*	*1*	*8*	*8*	*4*	*11*	*105*
	$3,466	$4,725	$912	$456	$4,746	$573	$347	$1,885	$2,384	$1,223	$2,193	$22,910
Asia:												
Aden	.....	.....	*2*	*14*	*6*	.....	.....	*6*	.....	.....	*2*	*30*
	.....	.....	$246	$2,431	$787	.....	.....	$1,439	.....	.....	$259	$5,162
Ceylon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*49*	*49*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$12,632	$12,632
China	*18*	*20*	*25*	*11*	*92*	*77*	*57*	*239*	*157*	*57*	*42*	*795*
	$4,542	$4,786	$6,790	$2,562	$16,943	$13,822	$10,811	$47,883	$49,874	$18,365	$12,690	$189,068
Kwantung (leased territory)	.....	.....	.....	.....	.....	*2*	*1*	*12*	*7*	*1*	.....	*23*
	.....	.....	.....	.....	.....	$350	$200	$2,520	$1,660	$300	.....	$5,030
Chosen (Korea)	*6*	.....	*2*	*7*	*23*	*10*	*3*	*7*	*19*	*12*	.....	*89*
	$1,350	.....	$413	$1,008	$4,852	$2,396	$685	$1,951	$5,283	$4,620	.....	$22,558
British India	*4*	*11*	*4*	*214*	*558*	*16*	.....	*682*	*1,331*	*213*	*245*	*3,278*
	$570	$2,404	$925	$40,338	$111,411	$3,796	.....	$189,108	$381,815	$73,901	$60,966	$865,234
Straits Settlements	*11*	*11*	.....	*11*	*82*	*140*	*10*	*106*	*344*	*18*	.....	*733*
	$3,349	$2,116	.....	$1,789	$15,773	$30,899	$2,146	$23,630	$87,415	$8,113	.....	$175,230
Other British East Indies	*2*	*7*	*3*	*18*	*140*	*68*	.....	*34*	*161*	*14*	*1*	*448*
	$591	$1,811	$1,211	$3,050	$26,198	$16,192	.....	$11,393	$48,326	$4,336	$715	$113,823
Java and Madeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*239*	*239*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$57,090	$57,090
Other Dutch East Indies	*3*	*20*	*54*	*185*	*1,079*	*251*	*268*	*634*	*1,283*	*376*	*2*	*4,155*
	$642	$4,916	$11,871	$34,753	$229,167	$50,126	$52,591	$142,007	$371,762	$124,140	$100	$1,022,375
Far Eastern Republic	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*1*	*1*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$184	$184
French Indo China	.....	.....	.....	.....	.....	.....	*1*	.....	*14*	.....	.....	*15*
	.....	.....	.....	.....	.....	.....	$108	.....	$3,175	.....	.....	$3,283
Greece in Asia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*2*	*2*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$273	$273
Hongkong	.....	*1*	*2*	*23*	*37*	*18*	*14*	*85*	*167*	*36*	*34*	*417*
	.....	$325	$690	$4,353	$7,531	$3,070	$3,549	$24,515	$44,710	$14,832	$9,201	$112,776
Japan	*137*	*21*	*14*	*19*	*122*	*394*	*270*	*864*	*751*	*555*	*735*	*3,872*
	$25,833	$4,548	$3,597	$3,191	$25,716	$78,324	$64,056	$208,066	$206,806	$181,367	$192,482	$993,986
Palestine and Syria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*1*	*1*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$370	$370
Persia	.....	.....	.....	.....	.....	*2*	.....	.....	.....	.....	.....	*2*
	.....	.....	.....	.....	.....	$730	.....	.....	.....	.....	.....	$730
Russia in Asia	.....	*1*	.....	*18*	*21*	.....	.....	.....	*10*	.....	.....	*50*
	.....	$115	.....	$3,738	$5,380	.....	.....	.....	$2,687	.....	.....	$11,920
Siam	.....	*3*	*6*	*6*	*21*	*17*	*5*	*21*	*19*	*7*	.....	*105*
	.....	$648	$1,375	$1,189	$3,626	$3,311	$860	$4,493	$4,864	$2,634	.....	$23,009
Turkey in Asia	*1*	*1*	.....	.....	.....	.....	*2*	*4*	*5*	*5*	.....	*18*
	$206	$152	.....	.....	.....	.....	$591	$1,564	$1,235	$1,390	.....	$5,138
Oceania	.....	.....	.....	.....	.....	.....	.....	.....	.....	*3*	.....	*3*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	$759	.....	$759
Australia	*24*	*786*	*709*	*2,394*	*2,998*	*1,678*	*1,004*	*2,004*	*2,910*	*803*	*3,706*	*19,016*
	$4,706	$132,998	$137,269	$475,157	$634,011	$380,786	$251,433	$570,967	$855,581	$229,245	$893,812	$1,565,965
New Zealand	*136*	*29*	*333*	*1,576*	*1,108*	*731*	*310*	*1,308*	*2,007*	*440*	*806*	*8,784*
	$22,664	$6,029	$49,072	$282,049	$236,432	$157,432	$79,742	$378,020	$569,741	$149,815	$204,680	$2,135,676
Other British Oceania	.....	.....	*11*	*10*	*5*	*1*	*3*	*3*	*7*	*1*	.....	*41*
	.....	.....	$1,560	$2,120	$1,330	$267	$1,001	$1,023	$2,459	$431	.....	$10,191
French Oceania	*6*	.....	.....	.....	*2*	*4*	*3*	*11*	.....	.....	*2*	*28*
	$1,157	.....	.....	.....	$628	$1,186	$513	$2,426	.....	.....	$275	$6,185
Other Oceania	.....	.....	.....	.....	*1*	*1*	.....	.....	*1*	.....	*3*	*6*
	.....	.....	.....	.....	$298	$96	.....	.....	$110	.....	$1,006	$1,510
Philippine Islands	*257*	*134*	*135*	*247*	*142*	*163*	*20*	*118*	*200*	*50*	*35*	*1,501*
	$42,052	$25,690	$29,383	$51,276	$30,743	$35,725	$4,032	$32,092	$54,119	$15,044	$9,060	$329,216
Africa:												
Algeria and Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*1*	*1*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$390	$390
Belgian Congo	.....	.....	.....	.....	.....	*1*	.....	.....	*2*	*4*	*8*	*15*
	.....	.....	.....	.....	.....	$289	.....	.....	$530	$845	$1,302	$2,966
British Africa, West	.....	*2*	*2*	*72*	*29*	*86*	*21*	*133*	*107*	*34*	.....	*486*
	.....	$418	$396	$15,689	$3,575	$12,336	$2,737	$31,570	$29,725	$8,745	.....	$105,191
South	*40*	*187*	*555*	*1,144*	*1,364*	*1,874*	*129*	*1,786*	*1,536*	*455*	*547*	*9,617*
	$6,784	$33,659	$101,210	$204,302	$252,478	$449,846	$36,277	$480,814	$450,325	$144,089	$135,534	$2,295,318
East	.....	*1*	*6*	*69*	*32*	*155*	*15*	*135*	*27*	*39*	*13*	*492*
	.....	$251	$834	$12,210	$5,033	$34,358	$4,500	$39,869	$7,202	$14,253	$3,502	$122,012
Canary Islands	.....	*2*	*14*	*9*	*5*	.....	.....	*6*	*18*	*4*	*2*	*60*
	.....	$493	$2,732	$2,056	$984	.....	.....	$1,666	$5,835	$955	$725	$15,446
Egypt	.....	*4*	*2*	*20*	*39*	.....	.....	*44*	*284*	*12*	*21*	*426*
	.....	$739	$438	$3,559	$7,251	.....	.....	$14,887	$81,968	$2,828	$5,707	$117,377
French Africa	.....	.....	.....	.....	*1*	*1*	.....	*17*	*9*	*5*	*1*	*34*
	.....	.....	.....	.....	$432	$237	.....	$3,886	$2,091	$1,150	$184	$7,980
Italian Africa	.....	.....	.....	.....	.....	.....	.....	.....	*1*	.....	.....	*1*
	.....	.....	.....	.....	.....	.....	.....	.....	$203	.....	.....	$203
Kamerun	.....	*1*	*1*	.....	.....	.....	.....	*1*	*4*	*5*	.....	*12*
	.....	$201	$473	.....	.....	.....	.....	$175	$968	$1,599	.....	$3,416
Liberia	.....	.....	.....	.....	*2*	.....	.....	.....	*1*	.....	.....	*3*
	.....	.....	.....	.....	$300	.....	.....	.....	$207	.....	.....	$507
Madagascar	.....	.....	.....	*3*	*1*	.....	.....	.....	.....	.....	.....	*4*
	.....	.....	.....	$502	$217	.....	.....	.....	.....	.....	.....	$719
Morocco	.....	.....	*1*	.....	*1*	*1*	.....	*6*	*3*	*11*	*42*	*65*
	.....	.....	$283	.....	$355	$360	.....	$2,416	$1,050	$2,120	$6,928	$13,512
Portuguese Africa	.....	*11*	*5*	*23*	*4*	*3*	*2*	*17*	*37*	*12*	.....	*114*
	.....	$1,827	$999	$5,000	$1,034	$520	$565	$5,012	$11,591	$4,352	.....	$30,900
Portuguese East Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*40*	*40*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$10,546	$10,546
Spanish Africa	.....	.....	.....	.....	*3*	.....	.....	.....	.....	*3*	.....	*8*
	.....	.....	.....	*2*	$638	.....	.....	.....	.....	$899	.....	$2,112
Grand Total Number	*3,983*	*6,410*	*8,166*	*17,499*	*16,609*	*10,599*	*3,700*	*24,481*	*37,622*	*11,001*	*15,976*	*156,046*
Value	$749,072	$1,234,194	$1,494,176	$3,369,366	$3,404,716	$2,364,785	$876,682	$6,687,436	$10,756,580	$3,517,769	$4,028,742	$38,483,518

Tire Exports, 1913 to 1922

	1913	1914	1915	1916	1917	1918	July 1 to Dec. 31 1918	Calendar Year 1919	1920†	1921†	1922†	Total 1913 to 1922
Europe:												
Austria (Prior to 1920 A.-Hungary)	$299	$1,009	.....	.....	.....	.....	.....	$43,121	$134,800	$95	$2,653	$181,977
Azores and Madeira Islands	.....	138	$178	$373	.....	$72	.....	.....	621	469	1,344	3,195
Belgium	401,900	15,730	.....	.....	.....	.....	$28,718	532,532	1,279,309	74,315	125,674	2,458,178
Bulgaria	500	170	150	.....	.....	.....	.....	.....	3,644	.....	839	5,303
Czechoslovakia	.....	.....	.....	.....	.....	.....	.....	.....	23,300	8,568	13,164	45,032
Denmark	16,611	11,414	12,288	16,089	$6,917	.....	.....	1,254,324	959,241	279,370	553,089	3,109,343
Esthonia	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,316	5,892	10,208
Finland	1,545	4,585	.....	.....	.....	.....	.....	23,367	240,879	47,845	41,678	312,054
France	20,205	5,448	8,723	80,423	425,132	661,648	425,149	3,535,178	2,369,018	384,358	289,946	8,205,228
Germany	401,196	132,181	6,090	.....	.....	.....	.....	33,280	488,500	13,283	12,813	1,087,343
Gibraltar	.....	.....	.....	.....	.....	129	.....	175	3,026	508	12,286	16,124
Greece	.....	271	2,680	698	34,654	2,000	.....	83,449	401,175	111,538	135,490	771,995
Iceland and Faroe Islands	.....	.....	.....	.....	61	.....	.....	23,961	3,615	6,991	13,882	48,510
Italy	1,150	915	11,740	333,437	101,362	55,913	585	226,245	1,060,836	25,110	107,129	1,924,422
Latvia	.....	.....	.....	.....	.....	.....	.....	.....	.....	47	280	327
Lithuania	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,416	3,051	4,467
Malta, Gozo and Cyprus Islands	.....	.....	.....	.....	.....	.....	.....	424	3,721	11,805	20,860	36,810
Netherlands	424	2,286	1,907	36,548	26,326	215	.....	1,043,981	1,813,149	112,028	214,503	3,251,367
Norway	456	5,649	7,394	10,001	11,937	525	6,668	845,690	1,430,386	320,256	461,497	3,100,459
Poland and Danzig	.....	.....	.....	.....	.....	.....	.....	.....	150,018	32,902	165,389	348,309
Portugal	282	157	1,434	25,990	9,055	15,448	4,388	176,303	376,072	17,166	99,534	725,829
Rumania	146	211	.....	576	.....	.....	.....	70,785	597,054	45,892	26,404	741,068
Russia in Europe	729	1,168	6,480	1,125,733	143,916	94,264	211	1,402	13,569	.....	15,550	1,403,022
Spain	567	1,595	2,408	32,984	77,753	12,233	20,899	825,007	1,925,185	311,841	447,490	3,657,962
Sweden	5,301	77,537	26,707	35,850	6,347	.....	18,825	1,373,847	2,619,103	566,242	895,396	5,625,155
Switzerland	.....	.....	.....	.....	.....	.....	.....	220,052	628,659	96,376	28,805	973,892
Turkey in Europe	.....	.....	1,927	.....	.....	.....	.....	85,334	215,834	44,503	47,778	395,376
Ukraine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,203	2,203
England	1,125,718	1,503,440	2,655,099	9,175,248	2,569,901	618,071	78,573	1,508,460	4,183,992	3,352,008	3,735,441	30,505,951
Scotland	.....	336	245	116,858	66,753	.....	.....	263	144,294	4,390	21,778	354,917
Ireland	.....	.....	.....	1,376	.....	.....	.....	.....	2,132	841	62,905	67,254
Yugoslavia, Albania and Fiume	.....	.....	.....	.....	.....	.....	.....	300	18,057	20,736	49,416	88,509
North and South America:												
British Honduras	163	727	64	36	590	3,469	2,503	6,663	7,212	4,990	2,784	29,201
Canada	1,324,459	961,937	772,574	1,176,836	1,485,939	1,766,518	350,345	1,021,014	2,704,230	1,041,218	1,089,409	13,694,479
Miquelon, Langley, etc.	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	.....	20
Newfoundland and Labrador	693	1,668	4,034	5,108	8,243	11,397	8,952	24,319	31,871	18,674	20,654	135,613
Costa Rica	2,793	6,877	2,381	6,068	11,918	4,018	4,505	12,301	15,568	9,350	21,795	97,574
Guatemala	2,224	5,547	3,406	6,299	24,545	7,039	15,642	64,981	61,776	41,686	52,219	285,364
Honduras	299	1,392	3,229	7,932	19,657	19,602	8,813	35,489	26,455	23,529	29,387	175,784
Nicaragua	429	180	419	157	294	1,042	2,743	32,075	27,830	12,131	7,313	84,613
Panama	19,466	18,362	24,549	73,854	74,047	137,609	51,959	416,637	485,281	147,056	134,240	1,583,060
Salvador	1,705	2,084	2,617	11,673	22,530	22,319	17,036	95,664	98,074	50,971	36,208	360,881
Mexico	203,883	111,948	106,083	236,811	257,413	777,984	566,442	805,614	1,438,777	1,368,253	1,261,507	7,134,715
Barbados	4,588	4,351	4,136	6,019	15,666	19,391	20,385	31,026	27,192	32,407	16,495	181,656
Jamaica	30,004	55,361	36,887	40,354	109,048	109,097	76,099	156,822	271,381	130,984	135,542	1,151,579
Trinidad and Tobago	16,364	17,023	22,672	30,510	45,654	105,373	49,838	78,435	184,000	122,641	79,107	751,617
Other British West Indies	1,869	2,472	3,327	8,337	21,526	25,991	20,787	33,700	68,263	19,735	13,734	219,741
Cuba	12,322	55,236	192,355	547,410	1,019,915	1,336,233	929,796	2,013,071	3,409,986	1,362,108	1,450,553	12,328,985
Virgin Islands of U. S.	540	1,739	577	1,099	2,753	6,939	6,089	8,679	21,658	29,227	9,703	89,003
Dominican Republic	2,306	2,902	3,062	18,223	37,441	61,684	54,755	121,891	274,442	138,811	152,535	868,052
Dutch West Indies	767	746	3,068	4,437	7,386	9,034	8,190	10,390	23,321	17,702	15,496	100,537
French West Indies	115	1,045	1,527	1,283	19,399	36,474	32,493	159,176	67,419	20,898	44,561	384,390
Haiti	765	2,336	526	988	2,287	13,091	16,323	60,102	83,815	40,153	35,006	255,392
Argentina	8,153	21,920	34,096	488,329	1,301,344	1,649,840	859,259	1,788,147	3,120,837	837,960	1,141,545	11,251,430
Bolivia	106	1,526	3,413	4,954	9,187	20,513	22,558	24,191	32,064	10,140	25,582	154,234
Brazil	47,537	11,839	77,425	295,479	696,876	455,102	111,550	1,018,055	1,965,201	226,694	631,922	5,537,680
Chile	2,844	10,636	21,353	58,809	264,603	725,876	481,919	795,440	525,635	112,338	187,748	3,187,201
Colombia	16,211	18,925	15,239	28,617	39,298	54,648	20,276	124,238	183,659	64,314	120,264	685,889
Ecuador	8,459	3,313	8,620	9,225	13,645	46,305	20,052	77,189	52,327	30,044	36,218	305,397
Falkland Islands	.....	.....	.....	.....	1,817	.....	.....	.....	.....	.....	.....	1,817
Guiana, British	2,726	3,420	3,884	5,512	10,171	29,437	39,488	49,637	50,992	22,427	18,391	236,085
Dutch	63	544	308	1,339	2,588	1,918	3,385	3,265	5,518	4,401	7,790	31,119
French	.....	.....	.....	14	45	.....	75	81	420	322	749	1,706
Paraguay	.....	.....	16	.....	35	.....	264	2,046	1,245	503	2,120	6,229
Peru	1,273	4,838	5,253	9,663	27,934	107,236	156,232	230,812	263,698	175,879	210,238	1,193,056
Uruguay	1,990	17,987	11,826	76,608	100,427	224,694	72,735	645,970	903,717	157,864	292,257	2,506,075
Venezuela	10,703	20,439	32,635	71,849	128,966	116,612	67,565	226,953	285,497	142,477	188,877	1,292,573
Asia:												
Aden	.....	55	264	1,585	440	2,536	.....	1,847	16,714	8,549	11,448	43,438
Ceylon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,234	14,234
China	622	28,326	18,971	41,298	36,952	53,039	48,536	254,784	421,364	126,585	84,015	1,114,492
Kwantung (leased territory)	152	.....	.....	999	.....	547	.....	1,425	3,710	106	130	7,069
Chosen (Korea)	240	2,578	2,189	4,330	3,909	927	1,388	11,538	16,966	8,373	13,345	65,783
British India	882	3,555	15,441	119,242	145,820	416,411	133,146	557,396	1,096,377	390,931	204,932	3,084,133
Straits Settlements	1,133	7,174	8,595	63,572	142,271	214,887	352,666	636,101	1,109,200	111,966	241,300	2,888,865
Other British East Indies	337	30	1,883	19,012	6,692	52,466	20,236	18,477	42,809	7,994	524	170,460
Java and Madura	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	293,594	293,594
Other Dutch East Indies	860	2,677	7,688	201,287	415,742	347,912	416,036	686,873	1,712,524	501,798	28,621	4,322,018
Far Eastern Republic	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,571	3,571
French Indo-China	.....	.....	.....	.....	.....	.....	1,514	7,518	6,594	3,501	7,773	26,900
Greece in Asia	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,843	1,624	6,467
Hejaz, Arabia and Mesopotamia	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,736	31,563	40,299
Hongkong	677	1,057	879	4,189	3,252	6,412	15,289	79,334	41,268	48,495	9,911	210,763
Japan	29,975	18,629	12,741	20,045	34,243	83,235	57,441	422,432	491,246	191,477	161,906	1,523,370
Palestine and Syria	.....	.....	.....	.....	.....	.....	.....	.....	.....	33,966	138,510	172,476
Persia	.....	.....	.....	.....	.....	.....	.....	1,092	8,091	3,461	1,693	14,337
Russia in Asia	.....	.....	.....	100	12,432	.....	8,806	266,674	17,923	.....	.....	305,935
Siam	1,334	92	742	2,236	8,547	16,179	12,444	12,239	18,843	11,833	8,090	92,579
Turkey in Asia	.....	.....	4,037	.....	.....	.....	1,067	12,734	77,202	62,197	703	157,940
Oceania:												
Australia	58,068	94,321	245,240	1,551,154	783,209	819,755	496,882	751,584	1,498,312	260,844	842,500	7,401,869
New Zealand	26,270	35,695	201,379	944,008	689,705	946,804	354,715	1,023,807	2,255,999	614,703	832,339	7,925,424
Other British	37	432	164	574	5,008	16,124	617	7,118	13,193	13,887	15,357	72,511
Other Oceania	.....	396	.....	41	518	5,211	2,854	8,862	5,676	4,921	7,315	35,794
French	956	7,278	5,262	8,990	8,102	10,801	6,073	13,516	13,719	15,006	6,251	95,954
Philippine Islands	100,476	141,205	250,832	391,634	345,702	863,727	423,568	1,372,544	2,431,252	656,573	731,260	7,708,773
Africa:												
Algeria and Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,419	5,419
Belgian Kongo	.....	.....	.....	17	.....	.....	.....	.....	2,352	.....	.....	2,369
British Africa, West	89	.....	1,149	27,301	10,967	33,470	25,210	122,940	743,978	151,674	158,816	1,275,594
South	17,057	27,090	32,822	291,318	391,211	693,065	372,606	479,934	1,778,167	256,488	688,803	5,028,561
East	536	642	4,833	9,732	20,162	21,846	165	32,402	119,503	52,916	70,242	332,979
Canary Islands	270	.....	.....	1,777	.....	.....	.....	4,545	17,356	24,951	54,845	103,744
Egypt	.....	208	63	532	1,316	.....	.....	25,881	150,423	53,158	76,479	308,060
French Africa	.....	.....	.....	.....	420	2,399	131	28,821	53,082	5,742	8,282	98,877
Italian Africa	.....	.....	.....	.....	174	.....	.....	.....	.....	.....	.....	174
Kamerun	.....	.....	.....	.....	.....	.....	.....	.....	8,073	919	.....	8,992
Liberia	.....	.....	.....	.....	92	.....	.....	45	2,661	161	298	3,257
Madagascar	.....	.....	.....	197	.....	.....	565	.....	.....	.....	.....	762
Morocco	.....	.....	.....	.....	.....	.....	.....	225	14,830	2,951	15,185	33,191
Portuguese Africa	.....	.....	946	3,601	.....	2,506	2,698	150	29,732	1,644	12,152	53,429
Portuguese East Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,378	1,378
Spanish Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27,896	27,896
	$3,942,819	$3,505,000	$4,963,131	$17,934,787	12,330,187	13,977,262	$7,437,722	28,924,391	$52,027,909	15,954,451	$19,898,412	$180,896,071

Includes Casings, Inner Tubes and Solid Tires.

American Exports of Storage Batteries for 1922

NORTH AND SOUTH AMERICA	No.	Value
British Honduras	10	$208
Canada	16,907	164,437
Miquelon, Langley and St. Pierre	1	275
Newfoundland	410	2,418
Costa Rica	32	1,064
Guatemala	176	3,328
Honduras	159	5,798
Nicaragua	98	1,630
Panama	648	13,811
Salvador	136	3,323
Mexico	3,870	62,727
Barbados	31	489
Jamaica	842	8,035
Trinidad and Tobago	230	4,549
Other British West Indies	217	8,670
Cuba	3,682	49,234
Virgin Islands	28	585
Dominican Republic	613	5,784
Dutch West Indies	8	163
French West Indies	29	450
Haiti	174	3,753
Argentina	12,377	116,886
Bolivia	8	501
Brazil	3,998	56,063
Chile	564	17,481
Colombia	788	8,534
Ecuador	52	1,015
British Guiana	215	2,120
Dutch Guiana	28	757
Peru	320	10,926
Uruguay	721	17,238
Venezuela	137	2,491

EUROPE	No.	Value
Belgium	2,286	$30,050
Czechoslovakia	200	1,853
Denmark	8,672	68,856
Finland	9	125
France	10,094	78,336
Germany	5	153
Gibraltar	2	100
Greece	5	103
Iceland and Faroe Islands	10	340
Italy	123	1,117
Malta, Gozo and Cyprus	19	352
Netherlands	339	8,461
Norway	990	22,598
Poland and Danzig	20	900
Portugal	61	595
Rumania	6	177
Spain	3,200	37,826
Sweden	580	10,290
Switzerland	26	334
Turkey in Europe	42	1,197
England	8,596	143,259

ASIA	No.	Value
Aden	4	67
Armenia and Kurdistan	8	561
Ceylon	350	7,068
China	1,319	22,855
Chosen	40	658
British India	4,228	68,712
Straits Settlements	376	9,711
Java and Madura	1,122	21,154
Other Dutch East Indies	43	$897
Far Eastern Republic	28	198
Hejaz, Arabia and Mesopotamia	1	50
Hongkong	173	3,536
Japan	1,154	28,274
Kwantung	3	20
Palestine and Syria	93	2,772
Siam	126	2,763
Other Asia	1	30

OCEANIA	No.	Value
Australia	8,318	122,945
New Zealand	4,475	83,203
Other British Oceania	77	566
Other Oceania	90	1,091
French Oceania	21	544
Philippine Islands	1,488	44,073

AFRICA	No.	Value
British West Africa	68	1,050
British South Africa	3,857	65,268
British East Africa	28	500
Canary Islands	16	305
Egypt	15	584
French Africa	2	83
Morocco	4	124
Portuguese Africa	13	423
Portuguese East Africa	120	842
Total	110,955	$1,472,692

American Exports of Electric Cars and Trucks for 1922

NORTH and SOUTH AMERICA	No.	Value
Canada	34	$28,403
Salvador	3	7,376
Mexico	9	7,095
Trinidad and Tobago	2	1,642
Other British West Indies	3	2,489
Cuba	1	1,902
Argentina	1	3,000
Brazil	1	1,620
Chile	1	2,593
Colombia	1	575
British Guiana	1	880
Peru	1	$3,859
Venezuela	1	1,400

EUROPE	No.	Value
Belgium	2	$2,047
Denmark	2	1,546
France	3	7,272
Netherlands	3	4,791
Norway	4	2,720
Spain	4	8,799
Sweden	9	16,180
Turkey in Europe	4	3,000
England	3	5,025

ASIA	No.	Value
Ceylon	2	$2,928
China	9	7,478
Chosen	10	22,680
British India	3	3,409
Java and Madura	1	3,150
Other Dutch East Indies	5	4,106
Japan	179	247,221

OCEANIA	No.	Value
Australia	30	36,860
Other Oceania	2	1,200
Philippine Islands	1	2,714

AFRICA	No.	Value
British East Africa	1	1,046
British South Africa	5	5,787
	341	$452,793

Agricultural Tractor Exports—1922

COUNTRIES	Garden Tractor		Wheel		Track Laying		Total 1922	
	No.	Value	No.	Value	No.	Value	No.	Value
Azores & Madeira			1	304			1	304
Belgium	5	2,809	181	71,579	13	8,186	199	82,574
Bulgaria			18	7,065			18	7,065
Czechoslovakia			1	385			1	385
Denmark			225	80,481			225	80,481
Finland			50	18,687			50	18,687
France	1	125	459	186,155	60	41,699	520	227,979
Germany			1	140			1	140
Greece	3	1,107	13	5,887			16	6,994
Hungary			6	2,371			6	2,371
Italy			1	370			1	370
Latvia			29	36,650	2	4,576	31	41,226
Malta, Gozo & Cyprus Is.	1	383	20	6,123			21	6,506
Netherlands	2	857	8	3,643	2	1,932	12	6,432
Poland & Danzig					1	480	1	480
Portugal					2	4,200	2	4,200
Russia in Europe			16	8,815	14	56,014	30	64,829
Rumania			5	1,756			5	1,756
Spain	4	1,261	433	150,947	26	15,955	463	168,163
Sweden			1	400	5	2,580	6	2,980
Switzerland					10	6,100	10	6,100
Turkey in Europe			47	18,637	9	3,398	56	22,035
Ukraine	2	492	81	35,400	30	52,851	113	88,743
Yugoslavia, Albania, etc.			5	678	1	387	6	1,065
England	6	3,374	227	74,054	7	5,287	240	82,715
Scotland			3	3,200			3	3,200
Canada	310	52,896	6,479	2,629,203	39	52,314	6,828	2,734,413
British Honduras			21	9,714			21	9,714
Guatemala			3	4,545			3	4,545
Honduras			3	1,248			3	1,248
Nicaragua			2	1,400	3	3,075	5	4,475
Panama			1	296	3	6,969	4	7,265
Mexico	3	875	211	167,992	13	35,186	227	204,053
Trinidad & Tobago	1	160	1	351	2	5,657	4	6,168
Other British W. Indies			1	370			1	370
Cuba			73	27,488	11	28,226	84	55,714
Newfoundland & Labrador					2	12,558	2	12,558
French West Indies			4	2,099	1	351	5	2,450
Barbados			1	351			1	351
Jamaica					2	5,239	2	5,239
Argentina	25	10,436	1,758	867,901	30	30,382	1,813	908,719
Brazil			220	68,097	2	6,680	222	74,777
Bolivia			1	475			1	475
Colombia	2	729	15	12,073	6	17,405	23	30,207
Chile			16	5,619			16	5,619
Ecuador			9	6,030	3	20,427	12	26,457
Dutch Guiana	2	650					2	650
Peru	4	249	22	13,873	2	1,080	28	15,202
Uruguay			194	73,115			194	73,115
Venezuela			2	12,778	5	26,147	7	38,925
British Guiana					1	3,724	1	3,724
Armenia & Kurdistan			21	17,649			21	17,649
British India	6	706	16	8,041	24	74,220	46	82,967
China	2	300	3	4,400			5	4,700
Chosen			1	1,100			1	1,100
Straits Settlements					1	4,716	1	4,716
Japan	54	9,722	20	28,735	40	121,306	114	159,763
Java & Madura			2	1,152	1	4,459	3	5,611
Other Dutch East Indies	5	1,391					5	1,391
Greece in Asia			1	385			1	385
Kwantung, leased ter.	1	500	1	893			2	1,393
Palestine & Syria	3	939	8	6,105	2	702	13	7,746
Siam			1	2,525	3	17,190	4	19,715
Australia	7	1,328	568	321,844	59	56,632	634	379,804
Turkey in Asia			1	381			1	381
New Zealand			22	12,650	7	4,075	29	16,725
Belgian Kongo			9	3,523			9	3,523
British East Africa					55	34,536	55	34,536
British West Africa	1	340	1	720			2	1,060
Other Oceania			1	500			1	500
Algeria & Tunis			16	6,022	22	22,942	38	28,964
Egypt			7	2,524			7	2,524
Morocco	1	291	39	13,928			40	14,219
Other Portugese Africa			2	800			2	800
Philippine Islands			3	676			3	676
Dominican Republic			1	2,404			1	2,404
British Guiana					1	3,247	1	3,247
	451	91,920	11,612	5,055,702	522	803,090	12,585	$5,950,712

American Spark Plug Exports, April-December, 1922

Country	Total 9 Months
Belgium	9,602
Czechoslovakia	433
Denmark	16,309
Finland	6,289
France	61,580
Germany	150
Gibraltar	390
Greece	1,171
Iceland and Faroe Island	146
Italy	3,362
Latvia	50
Lithuania	....
Malta	150
Netherlands	11,102
Norway	6,834
Poland and Danzig	699
Portugal	....
Roumania	....
Russia in Europe	....
Spain	28,351
Sweden	16,770
Switzerland	376
Turkey in Europe	1,412
Ukraine	....
England	40,771
Scotland	176
Ireland	....
Yugoslavia	360

Country	Total 9 Months
Bermuda	216
British Honduras	851
Canada	341,650
Miguelon, Langley	33
Newfoundland and Labrador	652
Costa Rica	426
Guatemala	221
Honduras	1,676
Nicaragua	1,232
Panama	6,770
Salvador	394
Mexico	20,034
Barbados	713
Jamaica	873
Trinidad and Tobago	1,878
Other British W. Indies	639
Cuba	23,222
Virgin Is. of U. S.	50
Dominican Republic	1,999
Dutch West Indies	296
French West Indies	64
Haiti	131
Argentina	50,861
Bolivia	....
Brazil	19,171
Chile	3,022
Columbia	2,419

Country	Total 9 Months
Ecuador	1,648
Falkland Islands	....
British Guiana	914
Dutch Guiana	126
French Guiana	30
Paraguay	....
Peru	6,273
Uruguay	2,321
Venezuela	2,873
Aden	385
Ceylon	185
China	2,555
Kwantung	22
Chosen	944
British India	11,079
Straits Settlements	5,058
Other British E. Indies	....
Java and Madeira	6,833
Other Dutch E. Indies	669
Far Eastern Republic	....
French Indo China	....
Greece in Asia	....
Hejaz, Arabia	....
Hongkong	984
Japan	36,790
Palestine and Syria	3,465
Persia	....
Russia in Asia	....

Country	Total 9 Months
Siam	350
Turkey in Asia	....
Australia	35,898
New Zealand	7,802
Other British Oceania	335
Other Oceania	149
French Oceania	402
Philippine Islands	7,586
Algeria and Tunis	....
French Africa	172
Belgian Kongo	....
British Africa	....
West Africa	2,084
South Africa	8,659
East Africa	42
Canary Islands	4
Egypt	3,970
Italian Africa	....
Kamerun	....
Liberia	....
Madagascar	....
Morocco	1,184
Portuguese Africa	133
Portuguese East Africa	....
Spanish Africa	882
Total	338,782

American Exports of Isolated Electric Plants for 1922

Country	No.	Value
EUROPE		
Belgium	25	$5,343
Denmark	13	2,596
France	45	9,356
Germany	1	475
Greece	32	9,346
Italy	43	7,875
Malta, Gozo and Cyprus Is.	8	2,542
Netherlands	3	598
Norway	7	3,174
Portugal	2	682
Rumania	1	357
Spain	44	15,910
Sweden	8	329
England	152	41,873
NORTH AND SOUTH AMERICA		
Canada	53	14,933
Guatemala	2	719
Honduras	13	10,110
Nicaragua	2	180
Panama	5	1,051
Salvador	10	4,100
Mexico	86	27,658
Newfoundland and Labrador	1	295
Barbados	4	2,784
Jamaica	6	2,075
Trinidad and Tobago	6	2,618
Other British West Indies	5	1,754
Cuba	37	10,570
Dominican Republic	28	14,526
Dutch West Indies	1	1,097
Haiti	2	800
Virgin Islands of U. S.	3	1,411
Argentina	48	21,040
Brazil	5	1,727
Colombia	46	15,671
Ecuador	3	897
British Guiana	1	615
Dutch Guiana	4	885
Peru	5	1,413
Uruguay	18	4,613
Venezuela	23	8,150
ASIA		
China	3	992
British India	45	14,791
Straits Settlements	31	7,811
Greece in Asia	7	1,851
Hongkong	1	685
Japan	11	5,890
Palestine and Syria	23	8,056
OCEANIA		
Australia	463	123,934
New Zealand	9	2,451
French Oceania	2	731
Philippine Islands	1	1,000

Country	No.	Value
AFRICA		
Algeria and Tunis	2	$387
British West Africa	7	2,173
British South Africa	22	6,811
Canary Islands	33	7,651
Egypt	6	1,247
French Africa	1	$335
Liberia	1	335
Morocco	1	1,400
Spanish Africa	1	390
Total	1,471	$441,569

American Airplane Exports, 1916-1922

Countries	1916	1917	1918	1919	1920	1921	1922	Total 1916-1922
France	.....	.....	.....	2	2	.....	.....	4
	.....	.....	.....	$15,000	$42,600	.....	.....	$57,600
Netherlands	.....	.....	6	.....	.....	.....	.....	6
	.....	.....	$76,226	.....	.....	.....	.....	$76,226
Norway	.....	.....	.....	2	.....	.....	1	3
	.....	.....	.....	$22,000	.....	.....	$3,000	$25,000
Spain	4	.....	.....	.....	.....	.....	.....	4
	$37,980	.....	.....	.....	.....	.....	.....	$37,980
Sweden	.....	.....	3	.....	.....	.....	.....	3
	.....	.....	$44,239	.....	.....	.....	.....	$44,239
United Kingdom	240	12	4	.....	.....	2	.....	258
	$1,964,094	$170,954	$27,775	.....	.....	$10,000	.....	$2,172,823
Canada	16	102	2	8	5	1	1	135
	$95,046	$616,068	$6,500	$28,200	$27,160	$5,000	$2,230	$780,204
Mexico	.....	.....	.....	.....	4	15	27	46
	.....	.....	.....	.....	$28,000	$98,165	$20,250	$146,415
Nicaragua	.....	.....	.....	.....	.....	2	.....	2
	.....	.....	.....	.....	.....	$25,000	.....	$25,000
Cuba	.....	.....	.....	2	2	1	1	6
	.....	.....	.....	$5,000	$15,500	$8,000	$500	$29,000
Jamaica	1	.....	.....	.....	.....	.....	.....	1
	$875	.....	.....	.....	.....	.....	.....	$875
Argentina	1	.....	.....	.....	9	19	.....	29
	$5,000	.....	.....	.....	$38,050	$79,500	.....	$122,550
Bolivia	.....	.....	.....	.....	1	.....	.....	1
	.....	.....	.....	.....	$25,180	.....	.....	$25,180
Brazil	3	.....	2	1	9	1	5	21
	$20,000	.....	$34,500	$18,000	$109,000	$1,396	$108,700	$291,596
Colombia	.....	.....	.....	1	1	1	.....	3
	.....	.....	.....	$10,000	$10,100	$5,000	.....	$25,100
Peru	.....	.....	.....	1	25	2	.....	28
	.....	.....	.....	$4,500	$272,750	$5,000	.....	$282,250
Uruguay	.....	.....	.....	.....	.....	.....	1	1
	.....	.....	.....	.....	.....	.....	$5,000	$5,000
China	.....	.....	.....	.....	5	.....	6	11
	.....	.....	.....	.....	$20,220	.....	$17,600	$37,820
Dutch East Indies	2	12	.....	.....	.....	.....	.....	14
	$27,000	$145,000	.....	.....	.....	.....	.....	$172,000
Hongkong	.....	.....	.....	.....	.....	1	.....	1
	.....	.....	.....	.....	.....	$1,800	.....	$1,800
Japan	2	7	3	.....	1	1	.....	14
	$8,400	$52,520	$16,880	.....	$5,714	$15,000	.....	$98,514
Australia	.....	2	.....	2	.....	.....	.....	4
	.....	$17,000	.....	$20,000	.....	.....	.....	$37,000
Philippines Is.	.....	.....	.....	25	1	2	.....	28
	.....	.....	.....	$92,600	$4,000	$61,079	.....	$157,679
Totals	269	135	20	44	65	48	42	623
	$2,158,395	$1,001,542	$206,120	$215,300	$598,274	$314,940	$157,280	$4,651,851
Parts of Airplanes	$4,843,610	$3,133,903	$8,877,977	$3,249,226	$554,375	$157,608	$265,231	$21,081,930

Canadian Exports

Passenger Cars, 1921 and 1922

Country	1921	1922	Total 1921 and 1922
	45	*18*	*63*
Aden	$16,954	$7,281	$24,235
	167	*2,105*	*2,272*
Argentina	$119,985	$1,350,099	$1,470,084
	3,934	*10,868*	*14,802*
Australia	$1,731,354	$5,413,949	$7,145,303
	.....	*331*	*331*
Belgium	.....	$262,008	$262,008
	.....	*2*	*2*
Bolivia	.....	$1,794	$1,794
	8	*244*	*252*
Brazil	$3,674	$198,422	$202,096
	1,487	*2,935*	*4,422*
British Africa	$678,837	$1,450,001	$2,128,838
	.....	*37*	*37*
British Guiana	.....	$25,229	$25,229
	1,080	*1,998*	*3,078*
British India	$488,922	$994,945	$1,483,867
	.....	*36*	*36*
British India—East	.....	$10,381	$10,381
	.....	*136*	*136*
British India—West	.....	$112,071	$112,071
	.....	*3*	*3*
Austria	.....	$1,395	$1,395
	.....	*14*	*14*
Canary Islands	.....	$9,126	$9,126
	40	*277*	*317*
Ceylon	$18,809	$121,116	$139,925
	4	*22*	*26*
Chile	$3,620	$20,647	$24,267
	21	*138*	*159*
China	$23,952	$120,867	$144,819
	.....	*14*	*14*
Colombia	.....	$12,788	$12,788
	.....	*7*	*7*
Costa Rica	.....	$7,278	$7,278
	.....	*38*	*38*
Cuba	.....	$35,268	$35,268
	.....	*79*	*79*
Denmark	.....	$68,928	$68,928
	.....	*7*	*7*
Dutch Guiana	.....	$4,058	$4,058
	862	*670*	*1,532*
Dutch Indies—East	$370,420	$325,670	$696,090
	91	*1*	*92*
Dutch Indies—West	$47,763	$840	$48,603
	12	*72*	*84*
Egypt	$6,048	$37,448	$43,496
	.....	*2*	*2*
Esthonia	.....	$1,817	$1,817
	.....	*13*	*13*
Fiji	.....	$6,073	$6,073
	.....	*5*	*5*
Finland	.....	$2,050	$2,050
	.....	*10*	*10*
French Indies—West	.....	$7,384	$7,384
	.....	*5*	*5*
French Oceania	.....	$1,969	$1,969
	.....	*2*	*2*
Germany	.....	$2,796	$2,796
	.....	*1*	*1*
Gibraltar	.....	$1,358	$1,358
	.....	*10*	*10*
Greece	.....	$7,968	$7,968
	.....	*16*	*16*
Guatemala	.....	$14,716	$14,716
	.....	*3*	*3*
Haiti	.....	$2,516	$2,516
	.....	*2*	*2*
Honduras	.....	$2,115	$2,115
	37	*23*	*60*
Hongkong	$56,953	$21,783	$78,736
	.....	*6*	*6*
Italy	.....	$6,532	$6,532
	4	*184*	*188*
Japan	$4,229	$147,740	$151,969
	.....	*2*	*2*
Lithuania	.....	$2,484	$2,484
	.....	*19*	*19*
Malta	.....	$11,389	$11,389
	5	*147*	*152*
Mexico	$6,652	$156,945	$163,597
	.....	*31*	*31*
Morocco	.....	$16,752	$16,752
	10	*182*	*192*
Netherlands	$11,383	$128,750	$140,133
	.....	*38*	*38*
Newfoundland	.....	$23,842	$23,842
	598	*2,848*	*3,446*
New Zealand	$305,702	$1,504,172	$1,809,874
	.....	*149*	*149*
Norway	.....	$114,587	$114,587
	.....	*2*	*2*
Oceania	.....	$754	$754
	.....	*6*	*6*
Panama	.....	$7,710	$7,710
	2	*22*	*24*
Portugal	$3,118	$27,180	$30,298
	.....	*6*	*6*
Portuguese Africa	.....	$4,147	$4,147
	.....	*1*	*1*
Russia	.....	$1,068	1,068
	.....	*14*	*14*
Salvador	.....	$14,298	$14,298
	.....	*11*	*11*
San Domingo	.....	$11,879	$11,879
	105	*20*	*125*
Siam	$42,839	$9,781	$52,620
	.....	*403*	*403*
Spain	.....	$383,389	$383,389
	12	*188*	*200*
Straits Settlements	$7,891	$76,491	$84,382
	59	*609*	*668*
Sweden	$36,787	$327,219	$364,006
	.....	*72*	*72*
Switzerland	.....	$61,388	$61,388
	.....	*44*	*44*
Syria	.....	$38,868	$38,868
	5	*22*	*27*
Turkey	$4,552	$14,251	$18,803
	984	*9,867*	*10,851*
United Kingdom	$731,980	$7,051,544	$7,783,524
	112	*138*	*250*
United States	$55,452	$74,263	$129,715
	4	*85*	*89*
Uruguay	$4,374	$65,798	$70,172
	.....	*69*	*69*
Venezuela	.....	$54,022	$54,022
	133	*65*	*198*
Other Countries	$91,542	$58,477	$150,019
	9,821	*35,394*	*45,215*
Total	$4,873,792	$21,059,874	$25,933,666

Automobile Parts, 1921 and 1922

Country	1921	1922	Total 1921 and 1922
Aden	.....	$4,921	$4,921
Argentina	$116	80,603	80,719
Australia	221,146	597,213	818,359
Azores	.....	5	5
Belgium	.....	3,129	3,129
Bolivia	.....	790	790
Brazil	.....	12,468	12,468
British Africa	170,191	194,768	364,959
British Guiana	.....	419	419
British India	71,495	200,901	272,396
British Indies—West	.....	3,702	3,702
Canary Islands	.....	137	137
Ceylon	.....	14,640	14,640
Chile	.....	899	899
China	.....	1,261	1,261
Colombia	.....	449	449
Costa Rica	.....	159	159
Cuba	.....	100	100
Denmark	.....	9,813	9,813
Dutch Guiana	.....	67	67
Dutch Indies—East	95,753	80,509	176,262
Dutch Indies—West	.....	39	39
Ecuador	.....	316	316
Egypt	.....	407	407
Fiji	.....	3,691	3,691
Finland	.....	88	88
France	.....	11,189	11,189
French Guiana	.....	62	62
French Oceania	.....	462	462
Germany	.....	80	80
Greece	.....	251	251
Guatemala	.....	281	281
Haiti	.....	21	21
Honduras	.....	57	57
Italy	.....	1,600	1,600
Japan	.....	243	243
Malta	.....	60	60
Mexico	.....	2,285	2,285
Miquelon and St. Pierre	.....	219	219
Morocco	.....	500	500
Netherlands	.....	1,071	1,071
Newfoundland	.....	4,806	4,806
New Zealand	164,940	90,684	255,624
Norway	.....	2,392	2,392
Oceania	.....	300	300
Panama	.....	5	5
Persia	.....	250	250
Peru	.....	83	83
Poland	.....	20	20
Portugal	.....	166	166
Portuguese Africa	.....	173	173
Salvador	.....	533	533
San Domingo	.....	1,224	1,224
Siam	.....	9,903	9,903
Spain	.....	6,984	6,984
Straits Settlements	28,297	45,941	74,238
Sweden	.....	2,808	2,808
Switzerland	.....	634	634
Syria	.....	487	487
Turkey	.....	468	468
United Kingdom	270,136	441,147	711,283
United States	117,633	80,592	198,225
Uruguay	.....	1,282	1,282
Venezuela	.....	1,463	1,463
Other Countries	45,461	3,897	49,358
Total	$1,185,168	$1,926,117	$3,111,285

British Exports—Motor Vehicle Chassis

Destination	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	Total
Argentine	.....	.....	.....	.....	.....	.....	.....	.....	.....	*19*	.....	*15*	*34*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	£19,209	.....	£10,907	£30,116
Belgium	*36*	*32*	*37*	*81*	.....	.....	.....	.....	*83*	*43*	*25*	*4*	*341*
	£13,690	£11,191	£13,520	£49,577	.....	.....	.....	.....	£59,160	£43,324	£35,809	£834	£227,105
Brazil	.....	.....	.....	.....	.....	.....	.....	.....	*5*	*19*	*8*	.....	*32*
	.....	.....	.....	.....	.....	.....	.....	.....	£4,295	£14,784	£8,257	.....	£27,336
China	.....	.....	.....	.....	.....	.....	.....	.....	*4*	*34*	.....	*14*	*52*
	.....	.....	.....	.....	.....	.....	.....	.....	£3,707	£26,328	.....	£8,962	£38,997
Cuba	.....	.....	.....	.....	.....	.....	.....	.....	.....	*24*	.....	.....	*24*
	.....	.....	.....	.....	.....	.....	.....	.....	.....	£26,871	.....	.....	£26,871
Denmark	.....	.....	.....	.....	.....	.....	.....	.....	*43*	*23*	*2*	*2*	*70*
	.....	.....	.....	.....	.....	.....	.....	.....	£35,031	£18,989	£385	£1,005	£55,410
France	*77*	*114*	*134*	*154*	*35*	*139*	*190*	*25*	*31*	*91*	*72*	*21*	*1083*
	£40,316	£63,070	£98,351	114,147	£18.040	£60,769	£95,712	£23,940	£14,618	£108,348	£90,691	£26,278	£754,280
Germany	*55*	*32*	*25*	*26*	.....	.....	.....	.....	.....	.....	.....	.....	*138*
	£25,136	£12,990	£10,767	£11,382	.....	.....	.....	.....	.....	.....	.....	.....	£60,275
Japan	.....	.....	.....	.....	.....	.....	.....	.....	*4*	*21*	*67*	*9*	*101*
	.....	.....	.....	.....	.....	.....	.....	.....	£1,864	£13,406	£39,974	£3,127	£58,371
Netherlands	.....	.....	.....	.....	.....	.....	.....	.....	*58*	*60*	.....	*8*	*126*
	.....	.....	.....	.....	.....	.....	.....	.....	£44,696	£48,784	.....	£5,531	£99,011
Norway	.....	.....	.....	.....	.....	.....	.....	.....	*13*	*11*	.....	.....	*24*
	.....	.....	.....	.....	.....	.....	.....	.....	£7,440	£6,836	.....	.....	£14,276
Portugal	.....	.....	.....	.....	.....	.....	.....	.....	*3*	*22*	.....	*2*	*27*
	.....	.....	.....	.....	.....	.....	.....	.....	£2,120	£16,842	.....	£2,500	£21,462
Russia	*7*	*11*	*8*	*383*	*48*	*48*	*391*	.....	.....	*15*	.....	*3*	*914*
	£2,300	£1,540	£3,752	£209,860	£20,654	£48,378	£243,844	.....	.....	£12,887	.....	£1,897	£545,112
Spain	.....	.....	.....	.....	.....	.....	.....	.....	*7*	*53*	*27*	*8*	*95*
	.....	.....	.....	.....	.....	.....	.....	.....	£3,937	£46,431	£40,656	£14,431	£105,455
Sweden	.....	.....	.....	.....	.....	.....	.....	.....	*2*	*21*	.....	*2*	*25*
	.....	.....	.....	.....	.....	.....	.....	.....	£1,550	£16,319	.....	£330	£18,199
United States of America	*59*	*14*	*7*	*65*	*53*	*36*	*5*	.....	*10*	*145*	*63*	*17*	*474*
	£27,492	£6,949	£4,359	£51,410	£41,642	£30,076	£2,850	.....	£8,742	£214,357	£104,891	£18,796	£511,564
Other Foreign Countries	*66*	*119*	*137*	*104*	*67*	*16*	*6*	*7*	*31*	*38*	*208*	*22*	*821*
	£23,425	£48,759	£39,997	£43,167	£17,253	£8,236	£2,717	£2,697	£24,166	£41,814	£204,842	£15,347	£472,420
Totals—Foreign Countries	*300*	*322*	*348*	*813*	*203*	*239*	*592*	*32*	*294*	*639*	*400*	*127*	*4309*
	£132,359	£144,499	£170,746	£479,543	£97,589	£147,459	£345,123	£26,637	£211,326	£675,529	£525,505	£109,945	£3,066,260
Australia	*367*	*702*	*617*	*413*	*112*	*126*	*15*	*20*	*96*	*876*	*342*	*549*	*4235*
	£137,062	£229,592	£175,154	£122,591	£35,173	£42,016	£4,283	£3,374	£56,911	£515,418	£235,749	£273,394	£1,830,726
British East Indies	*38*	*53*	*109*	*89*	*51*	*152*	*35*	*7*	.....	.....	.....	.....	*534*
	£16,592	£21,018	£45,405	£34,570	£16,568	£65,739	£18,448	£6,170	.....	.....	.....	.....	£224,510
British India	.....	.....	.....	.....	.....	.....	.....	.....	*174*	*908*	*49*	*207*	*1338*
	.....	.....	.....	.....	.....	.....	.....	.....	£124,049	£748,814	£50,026	£146,064	£1,068,953
Canada	*8*	*37*	*65*	*13*	.....	.....	.....	.....	*14*	*26*	*21*	*29*	*213*
	£3,567	£21,096	£37,586	£7,987	.....	.....	.....	.....	£9,618	£25,244	£16,546	£16,497	£138,132
Ceylon and Dependencies	.....	.....	.....	.....	.....	.....	.....	.....	*7*	*36*	*2*	*1*	*46*
	.....	.....	.....	.....	.....	.....	.....	.....	£4,952	£26,143	£1,226	£485	£32,806
New Zealand	.....	.....	.....	.....	.....	*37*	*6*	*2*	*51*	*431*	*89*	*129*	*745*
	.....	.....	.....	.....	.....	£10,308	£3,638	£1,350	£43,157	£316,089	£74,477	£74,748	£523,767
Straits Settlements and Dependencies	.....	.....	.....	.....	.....	.....	.....	.....	*3*	*94*	*34*	*14*	*145*
	.....	.....	.....	.....	.....	.....	.....	.....	£2,737	£82,933	£24,282	£8,603	£118,555
Union of South Africa	.....	.....	.....	.....	.....	.....	.....	.....	*10*	*55*	.....	.....	*65*
	.....	.....	.....	.....	.....	.....	.....	.....	£7,283	£44,594	.....	.....	£51,877
Other British Possessions	*22*	*66*	*95*	*108*	*117*	*12*	*10*	*4*	*29*	*59*	.....	*72*	*594*
	£7,109	£21,019	£36,392	£35,005	£37,851	£2,982	£1,995	£1,225	£11,552	£32,916	.....	£17,494	£205,540
Total British Possessions	*435*	*858*	*886*	*623*	*280*	*327*	*66*	*33*	*384*	*2485*	*537*	*1001*	*7915*
	£164,330	£292,725	£294,537	£200,153	£89,592	£121,045	£28,364	£12,119	£260,259	£1,792,151	£402,306	£537,285	£4,194,866
Total	*735*	*1,180*	*1,234*	*1,436*	*483*	*566*	*658*	*65*	*678*	*3,124*	*937*	*1,128*	*12,224*
	£296,689	£437,224	£465,283	£679,696	£187,181	£268,504	£373,487	£38,756	£471,585	£2,467,680	£927 811	£647,230	£7,261,126

British Truck Exports, 1921-1922

Country	1921		1922	
	No.	Value	No.	Value
Australia	84	$61,402	88	$61,404
Belgium	9	9,298	8	3,853
Brazil	13	8,125	32	45,059
British India	149	165,248	63	39,117
Canada	2	3,613	13	13,251
Ceylon Dependencies	1	1,833	7	4,484
Cape of Good Hope	7	10,380	5	7,386
Denmark	2	4,120	2	515
Egypt	10	12,284	14	1,437
Federated Malay States	13	15,730	.....	.....
France	13	9,825	5	1,880
Japan	6	10,124	9	10,299
Natal	6	9,678	3	3,188
New Zealand	23	19,557	46	32,772
Russia	.....	.....	8	7,849
Roumania	3	1,206	1	200
Spain	14	14,569	74	103,284
Transvaal	5	7,703	22	10,886
Straits Settlements	6	7,789	7	8,208
Other Foreign Countries	418	316,536	189	355,072
Totals	784	$689,020	596	$473,330

British Passenger Car Exports, 1921-1922

Country	1921		1922	
	No.	Value	No.	Value
Australia	105	$82,906	158	$77,224
Belgium	20	18,813	19	13,490
Brazil	13	19,482	24	12,829
British India	403	375,515	265	167,133
Canada	40	55,136	32	32,289
Ceylon and Dependencies	39	22,367	31	12,514
Cape of Good Hope	77	42,887	33	22,372
Denmark	47	43,370	34	19,999
Egypt	36	23,076	22	19,599
Federated Malay States	18	11,666	2	495
France	27	31,588	26	25,409
Japan	64	63,093	38	18,632
Natal	25	13,963	20	9,492
New Zealand	128	80,312	100	44,735
Russia	4	9,100	3	2,532
Roumania	5	4,535	1	2,774
Spain	65	77,866	29	27,720
Transvaal	21	11,514	17	8,027
Straits Settlements	61	45,478	42	23,168
United States	26	43,963	66	89,099
Other Foreign Countries	746	566,796	411	221,291
Totals	1,370	$1,643,426	1,373	$850,823

French Car and Truck Exports, 1922

Country	Number Cars	Number Trucks	Total Number Cars and Trucks
Algeria	1,526	85	1,611
Belgium	3,214	655	3,869
Germany	145	....	145
Indo-China	195	....	195
Japan	133	....	133
Morocco	265	271	536
Spain	....	203	203
Switzerland	576	....	576
Great Britain	4,069	1,324	5,393
Tunis	115	....	115
United States	205	154	359
Other Countries	1,534	880	2,414
Total	11,977	3,572	15,549

*Eleven Months.

Canadian Truck Exports, 1921 and 1922

Country	1921	1922	Total 1921 and 1922
	.....	*4*	*4*
Aden	.....	$1,779	$1,779
	370	*1,574*	*1,944*
Australia	$176,328	$662,549	$838,877
	43	*262*	*305*
British Africa	$19,437	$109,203	$128,640
	362	*155*	*517*
British India	$170,532	$66,552	$237,084
	.....	*1*	*1*
British Indies—West	.....	$1,790	$1,790
	16	*71*	*87*
Ceylon	$7,150	$27,787	$34,937
	270	*51*	*321*
Dutch Indies—East	$133,028	$22,428	$155,456
	.....	*4*	*4*
Fiji	.....	$1,736	$1,736
	.....	*6*	*6*
Finland	.....	$2,604	$2,604
	.....	*2*	*2*
Newfoundland	.....	$1,020	$1,020
	132	*216*	*348*
New Zealand	$71,297	$90,912	$162,209
	26	*25*	*51*
Siam	$12,220	$10,350	$22,570
	88	*36*	*124*
Straits Settlements	$40,835	$16,178	$57,013
	16	*147*	*163*
United Kingdom	$14,784	$73,634	$88,418
	10	*5*	*15*
United States	$9,000	$3,889	$12,889
	.....	*1*	*1*
Uruguay	.....	$300	$300
	16	*4*	*20*
Other Countries	$14,861	$1,828	$16,689
	1,349	*2,564*	*3,913*
Total	$669,472	$1,094,539	$1,764,011

Canadian Tire Exports, 1921 and 1922

Country	1921	1922*	Total 1921 and 1922
Argentina	$196,053	$396,076	$592,129
Australia	18,975	224,366	243,341
Belgium	.....	41,942	41,942
Brazil	52,153	266,933	319,086
British Africa	117,991	224,672	342,663
British Guiana	14,381	18,242	32,623
British India	105,268	128,968	234,236
British West Indies	145,765	132,387	278,152
Ceylon	19,114	32,881	51,995
Chile	17,530	10,823	28,353
China	410	.....	410
Cuba	1,470	10	1,480
Denmark	71,109	18,852	89,961
Dutch East Indies	125,571	157,557	283,128
France	106,584	170,516	277,100
Japan	53,574	104,431	158,005
Netherlands	12,260	2,861	15,121
Newfoundland	1,960	379	2,339
New Zealand	84,897	360,125	445,022
Panama	16,908	.....	16,908
Peru	1,126	199	1,325
Spain	22,141	12,475	34,616
Straits Settlements	.....	26,160	26,160
Sweden	1,200	.....	1,200
United Kingdom	1,135,167	914,245	2,049,412
United States	67,437	10,677	78,114
Araguay	16,218	10,549	26,767
Other Countries	145,794	394,401	540,195
Totals	$2,551,056	$3,660,727	$6,211,783

*Eleven months ending December, 1, 1922.

German Automotive Exports, January to October, 1922

	No. of Cars, Trucks and Chassis	Parts, Kilograms	Tires, Kilograms	No. of Motorcycles
Argentina	....	.....	133,648	....
Austria	39	457,200	42,744	....
Baltic Russia	....	.....	6,280	....
Belgium	670	113,800	.....	....
Bulgaria	....	.....	192	....
Central America	18	100	.....	....
Czechoslovakia	....	.....	88,152	....
Danzig	....	.....	50,164	....
Denmark	464	31,600	120,592	518
Dutch India	35	.....	1,112	....
Finland	39	6,400	.....	....
France	18	6,000	.....	....
Great Britain	52	1,400	99,328	....
Hungary	....	.....	7,900	....
Italy	12	89,100	30,760	....
Mexico	....	.....	320	....
Netherlands	1,482	133,600	185,788	905
Norway	43	5,700	.....	....
Poland	....	700	.....	....
Portugal	28	2,500	.....	....
Saar District	84	.....	34,056	....
South America	117	5,500	34,900	....
Southeast Asia	105	600	17,400	....
Spain	530	17,200	.....	....
Sweden	427	12,200	.....	28
Switzerland	83	28,800	152,752	113
United States	20	1,800	.....	....
Other America	3	.....	.....	....
Other countries	2,772	671,000	1,170,964	2,288
Total	7,041	1,585,200	2,177,052	3,852

Belgian Motorcycle Exports

1921 AND FIRST SIX MONTHS OF 1922

Value in Belgian Francs

	1921 No.	1921 Value	1922 No.	1922 Value
France	47	131,175	68	132,353
Great Britain	5	16,126	58	183,621
Netherlands	277	933,788	54	150,971
Japan	..	....	44	115,558
Belgian Congo	..	....	26	99,949
Switzerland	..	....	15	49,400
Germany	5	19,019	..	....
Other countries	250	1,021,960	68	264,887
Total	584	2,122,068	333	996,739

Italian Car Exports

Year	Number	Year	Number
1912	7,266	1920	11,320
1913	6,575	1921	10,415
1914	3,291	1922 (6 mo.)	6,213
1915	2,485		
1919	2,547	Total	50,112

Belgian Automobile Exports, 1919, 1920, 1921, 1922

Countries	COMPLETE CARS				CHASSIS ONLY				COMPLETE CARS			
	1919		1920		1919		1920		1921		1922	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
Great Britain	38	$541,400	352	$7,291,600	3	$51,000	256	$3,853,775	171	$5,261,269	118	$3,505,878
United States	.....	.....	4	85,000	.....	.....	3	74,000	15	571,000	28	809,243
Switzerland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26	1,004,200
Holland	48	463,000	225	3,994,846	.....	.....	.....	.....	142	3,523,389	26	509,057
Spain	11	212,000	127	3,249,500	.....	.....	.....	.....	61	2,230,100	16	599,195
Argentine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14	666,819
Germany	3	55,000	7	66,350	.....	.....	20	674,500	35	1,087,000	9	327,483
Portugal	7	125,000	134	2,551,957	.....	.....	.....	.....	9	388,000	7	266,473
France	17	324,000	95	1,721,702	7	85,800	62	857,332	72	1,615,173	6	123,982
British India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	213,513
Egypt	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	211,470
Morocco	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	147,611
Italy	.....	.....	2	86,000	.....	.....	7	75,575	.....	.....	1	30,000
Austria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	38,000
Other Countries	26	391,470	253	8,127,974	34	282,325	191	3,910,107	265	10,520,657	97	1,813,075
Total	150	$2,111,870	1,199	$27,177,929	44	419,125	539	$9,445,289	770	$25,196,588	363	$10,265,999

AUTOMOTIVE INDUSTRIES
The AUTOMOBILE
Reg. U. S. Pat. Off.

PUBLISHED WEEKLY

Vol. XLVIII Thursday, February 22, 1923 No. 8

THE CLASS JOURNAL COMPANY
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Extra postage west of the Mississippi River on account of Zone Postage Law 0.50
Canada .....One Year, 5.00
Foreign Countries .....One Year, 6.00
To Subscribers—Do not send money by ordinary mail. Remit by Draft, Post-Office or Express Money Order or Register your letter.

Owned by United Publishers Corporation, Address 239 West 39th St., New York; H. M. Swetland, President; Charles G. Phillips, Vice-President; A. C. Pearson, Treasurer; Fritz J. Frank, Secretary.
Entered as second-class matter Jan. 2, 1903, at the post-office at New York, New York, under the Act of March 3, 1879.
Member of Associated Business Papers, Inc.
Member of the Audit Bureau of Circulations.
Automotive Industries—The Automobile is a consolidation of The Automobile (monthly) and the Motor Review (weekly), May 1902, Dealer and Repairman (monthly), October, 1903, and the Automobile Magazine (monthly) July, 1907.

1923 Statistical Issue

THIS issue is designed as a statistical picture of the automotive industry as it is today. Wherever possible, the present has been compared with the past and some indication has been given of future probabilities. Every effort has been made to have the data accurate and complete. Improvements have been made over last year in the way of presentation, in an attempt to render the issue more easily used as a reference volume.

Several new features have been added, such as motor bus, taxicab, rail car and stock clutch specifications. We will welcome comments on these items, favorable or otherwise, with a view to incorporating constructive suggestions in future issues of a similar character.

If errors have crept into any of these data, they have come despite every care in checking and compiling. We want to know about any that are discovered, that we may correct them.

Hoover Seeks Rubber Survey

SUBSTANTIAL evidence of the Administration's deep interest in the crude rubber situation is found in reports from Washington. President Harding has urged that a survey be authorized to determine the feasability of establishing rubber plantations in the insular possessions. Secretary of Commerce Hoover has asked Congress for an appropriation of $400,000 to investigate the possibilities in the Philippines and South America with an additional $100,000 to defray the cost of experiments by the Department of Agriculture.

A plentiful supply of crude rubber at a reasonable price is absolutely essential for the United States. Whether or not British producers will assume a more reasonable attitude as the result of the visit of their commission to this country remains to be seen, but whatever position they take, it is unthinkable that Americans always will continue to rely upon foreigners for a commodity of such vital necessity.

The administration's interest may be due in part to the more immediate needs of the rubber industry, but it probably is due chiefly to more remote considerations. The peace of the world promises to be more or less unstable for some time to come and in the event of another great war it would not be pleasant to be dependent upon foreigners for rubber. Motor transport probably will play in future wars an even larger part than it did in the last and it would be difficult to exaggerate the importance of a continued flow of rubber for tires as well as other military needs.

Automobiles and Whooping Cough

STATISTICS compiled by *The American Motorist* show that whooping cough cost 10,968 lives in 1920 and that motor vehicles killed only 10,168 in 1921. It is contended also that automobile fatalities are not increasing in proportion to the gain in registrations. In fact the number of deaths caused by motor vehicles per 10,000 cars has been almost cut in half since 1915.

There is cold comfort in these figures for the relatives of persons killed either by whooping cough or motor cars. Death from disease is less horrible than death by violence but the result is the same. There are too many fatalities from both causes.

Medical science has made astounding strides in the past few years in lowering the death rate from preventable diseases but its work in this direction has only begun. More stringent traffic regulations may have lowered the percentage of automobile fatalities in proportion to the number of vehicles, or pedestrians may have become better dodgers, but the fact remains that there are altogether too many accidents.

The only way to cut down the ghastly toll taken by motor cars is to study scientifically means of prevention. The problem can't be solved by rule of thumb methods or by legislative enactments. A lowered death rate from tuberculosis, for example, has been the result of a long continued, patient campaign of education.

If equal attention were paid to the promotion of safety the results might be equally gratifying. Efforts in this direction in the past have been too sporadic. In this work the motorist can play an important part. No study of statistics is of any value unless it leads to something. "Jay-walking" may be a favorite means of committing suicide but pointing out that fact does not lessen animosity toward the automobile.

Annoying Delays in Tank Filling

CERTAIN manufacturers of gasoline and oil-filling station apparatus have recently directed our attention to the fire hazard and delay at gasoline filling stations which is occasioned by the use of gasoline tank filler pipes which are either so small or so crooked as to occasion considerable loss of time in filling the tank and which not infrequently result in spilling considerable quantities of gasoline, with consequent waste of fuel.

This is a matter which causes criticism by the car user as well as by the service station operator and therefore helps to build up future sales resistance. The delays which are occasioned by crooked or too small filling spouts affect not only the users of the car involved, but often the users of many other cars who are waiting in line at the filler station.

A crooked pipe or one in which the gasoline gage mechanism interferes with free entrance of the fuel often causes air to be trapped in the fuel tank. This air must bubble back past the fuel and oftentimes pass through it, not infrequently causing an overflow which would not occur in the case of a straight pipe of adequate diameter. In most cases it would appear to be possible to use a straight pipe instead of a gooseneck or other crooked form and the straight pipe would be less expensive.

When a crooked pipe is necessary, however, or is the least objectionable compromise, it is an easy matter to provide a separate air vent which would eliminate the trouble to which a crooked pipe is subject. S. A. E. recommended practice specifies filler openings which have a minimum diameter of 2 in. This is ample to permit the insertion of the largest size gasoline pump nozzle and to provide the necessary air vent providing straight filler pipe is employed. There seems to be no good reason why this standard should not be generally applied in practice.

Gasoline pump manufacturers state that there are many cars in use today, especially those with filling pipes projecting through the dash, into which it is impossible to pour gasoline at a rate of more than 2 or 3 gal. per minute, whereas modern gasoline pumps are often capable of delivering 15 to 18 gal. per minute.

A somewhat similar situation exists in respect to filler openings and pipes for crankcase oil. Some of these are made so small as to preclude the use of any but very small funnels so that the filling operation is a slow one at best and often results in spilling considerable quantities of oil. Just why some designers have chosen to use an oil fill opening not much over ¾ in. in diameter is not clear. It is certainly feasible to have a clear opening of at least 1¼ in. in diameter. One which is not obstructed by baffle or strainer within 3 or 4 in. from the opening is preferable.

At first thought these criticisms may seem to be of minor importance as compared to others which are of much greater significance. It must be evident, however, that failure to heed just criticism, even though it be of a minor character, ultimately results in considerable loss of prestige and in sales resistance which is not easy to overcome. This is especially true in the case of small items which cause direct annoyance to the user who, in the last analysis, is the individual whom the designer must seek to please.

Ford and Muscle Shoals

THE past few weeks have brought about in Congress a recrudescence of interest in Henry Ford's offer for Muscle Shoals. If it could be brought to a vote in the House at this session friends of the Ford plan probably would win, although the reverse might be true in the Senate, but there is no possibility of action before adjournment with the ship subsidy bill in the offing. This means that nothing definite will be done before the new Congress meets in December.

Ford's chances undoubtedly will be much better at the next session and he probably will be content to wait. He is making no particular effort to force action. He knows that the atmosphere in the new Congress will be more progressive, not to say radical. The only people in the South who are opposed to his offer are the water power interests, but the powerful agricultural groups, with visions of cheaper fertilizer for the farmer, will back him.

Unless an impending presidential campaign brings complications, the chances seem to be that another eighteen months will see Ford in control of the great power reservoir in the Tennessee river. With it in his hands, his plans will unfold rapidly and the country soon will see the opening acts of a stupendous industrial drama.

Light on Closed Car Values

THIS year will see an increased production of closed cars. A 5 per cent increase will make the value of the closed car output exceed that of open cars, assuming that prices remain comparatively stationary.

Efforts to reduce the cost of closed car bodies have been evidence of a realization of the growing importance of this type of car. The fact this type furnished 43 per cent of the retail value of last year's output brings home the importance of the closed car to the industry as a whole from the standpoint of value.

An analysis of the closed car business from a production standpoint tells less than half the story. The whole tale puts the closed car in even better light.

Each Show Bringing More Encouragement

Southeast and Pacific Coast Report Interest—Production on High Level

NEW YORK, Feb. 19—Operations at major automobile producing plants are proceeding on schedules that promise a close approach in total output to the record established in January, despite the fact that February is a short month and includes a holiday. The cold snap of last week resulted in the tying-up of rail facilities at the principal manufacturing centers and the consequent retarding of shipments to and from factories. This permitted manufacturers to build up a reserve of finished products, which, however, will go forward as soon as rail equipment can move, but it did not necessitate a curtailment of operations.

Demand for automobiles continues insistent in practically all sections of the country with only a slight showing of stocking of cars by dealers. Manufacturers, basing their activities on actual conditions in the field, find further encouragement to maintain production on more than normal programs in the reports of shows held during the week.

Southeast Promises Expansion

Interest evidenced in Atlanta reflected the general improvement in industrial conditions in that region and gave further promise of expansion of trade for the automotive industry through the Southeast. The exhibit in Portland, Ore., developed an unexpected demand in that section of the Pacific Coast and, among cities lying midway of these centers, Toledo furnished proof of the forward trend at chief distributing points of the Middle West.

Many of the orders received have been for spring delivery, but there is a strong current demand that will dispose of factory output immediately upon delivery.

Tractor business in the Southeast has shown steady improvement, with January reported to be the best month in volume of sales of any in the last three years. This is owing to the greater buying power among the farmers. Expansion in this branch of the industry is expected this spring in the Northwest, where there have been indications of a marked reawakening.

This revived spirit of buying in agricultural sections will have its bearing on truck sales and improvement is already noted through Minnesota and the Dakotas. Industrial centers continue to take a major part of the output at present and factory operations still give much attention to bus and rail car production.

Parts business is mounting to new high levels due to the pressure of demand from automobile producers. Increasing releases of parts are due in a measure to the expectancy of retarded rail movements in the spring and the desire of car builders to be able to proceed with manufacturing on a high level.

Business in Brief

NEW YORK, Feb. 21—Further evidence of great gain in business activity were noted last week. Improvement in some lines was retarded by the storms which have swept over the entire country, retail trade in particular suffering. Other lines, especially rubber footwear, benefited.

Unfilled steel orders reflected the forward movement of industry. Prices of iron and steel from the crude to the highly finished products showed a general advance. Unfilled orders for locomotives was another factor of importance.

Movement of farm products was delayed by storms, and undoubtedly the falling off in car loadings was due in a large measure to the same cause.

The month of January set up a new high mark for building construction which has been continued in February, except in localities where the weather prevented. Building activity has stimulated industries contributing raw materials and finished products such as brick and cement.

Another indication of maintained industrial progress is seen in the scarcity of labor. The problem is no longer one of furnishing employment, but rather one of getting sufficient help to increase output and fill existing demands.

Class 1 railroads showed a decided gain in operating income for the month of December when compared with the same month in 1921.

Greater activity in the stock market last week reflected the feeling of optimism over domestic industry in spite of the unfavorable news from Europe. Daily sales exceeding 1,000,000 marked this activity. Bonds remained firm and active.

M. A. M. A. Has New Export Committee

S. W. Dorman Heads It — Will Formulate Policy for International Trade

NEW YORK, Feb. 20—An active policy in regard to the development of international trade for the members of the Motor and Accessory Manufacturers Association will be formulated by the new foreign trade committee of the association, the formation of which was announced here today.

The committee is headed by S. W. Dorman, vice-president and general manager of the Overseas Motor Service Corp. of this city. The other members are J. F. Kelly, export manager of the Electric Storage Battery Co.; E. P. Chalfant of the Gill Manufacturing Co. and M. Lincoln Schuster of the association.

The new committee, which is taking over the work of the former foreign trade committee that was headed by W. O. Rutherford, the president of the association, held its first meeting today, making a preliminary survey of the field and determining upon the initial steps in the evolution of a program having for its aim the inclusion of all members of the association making products applicable to international trade.

Bulletin Service Proves Interest

Through the bulletin service that the association has developed during the last twelve months, it has been found that more than one-fourth of the members are interested, in one form or another, in foreign trading effort. The new committee will seek to work closely in a trade way with these companies, and it will seek to build within the entire membership of the association an understanding of the possibilities of the foreign field.

Further meetings will be held shortly and the work of the committee further developed. The following statement, prepared by the committee, sets forth the present outlook and indicates the need for such work as is planned:

The demand for automotive products and equipment of nearly every class is in many parts of the world materially increasing and the orders being received by numerous American manufacturers are now at a volume considerably larger than at any time during the last two years. Expansion in automobile operation is continuing in most countries, this generally being true with the exception of some sections of Western, Central and Eastern Europe, which, of course, are closed because of financial or political conditions.

Otherwise, in Australia, New Zealand, much of the Far East, including the Philippine Islands and Hawaii, Latin-America,

(*Continued on page* 491)

Standard Parts Sale Is Set for March 29

Stockholders Made Attempt to Raise Sufficient Funds to Buy Eleven Plants

CLEVELAND, Feb. 20 — Eleven plants of the Standard Parts Co., each of which is equipped for manufacturing parts and accessories, will be sold to the highest bidder on March 29 in the United States District Court in this city. The order for the sale has been issued by Federal Judge D. C. Westenhaver, who appointed receivers for the company in September, 1920.

The eleven plants are all in operation, are working on contracts and have orders to keep them busy for some time. The plants are worth more than $1,000,000, and are the remaining ones of the $20,000,000 corporation built by Christian Girl, who left the company in 1920. They will be sold subject to existing contracts and there will be no interference with work now going on. Orders will be filled promptly and the receiver will carry the plants along until the sale.

Stockholders' Investment $20,000,000

The issuance of the order here followed the unsuccessful attempt of stockholders to save their investment by raising sufficient capital to purchase the plants. Judge Westenhaver, before making the order, stated he hoped a way would be found to preserve the property for the benefit of creditors and stockholders. Stockholders fear the sale will wipe out their $20,000,000 investment, represented by $6,439,000 in preferred and $14,262,331 in common stock.

When Receiver Frank Scott filed his application for the sale last December, claims against the company were placed at $9,754,003, of which $6,816,917 was due creditors before the appointment of receivers. Until Nov. 30, 1922, the business under the receivers had incurred additional obligations totaling $625,000. At a meeting of creditors on Dec. 7 it was decided to ask the court to sell the properties. In 1922 the company had distributed $7,500,000 worth of automotive materials.

Plants to Be Sold

The following assets are to be sold:

Eaton Axle plant, together with a fifteen acre tract at Darley Avenue, N. E., and New York Central tracks, six lots in another parcel and all machinery and equipment of plant.

Standard Welding plants and machinery, tools and good will and eight parcels of land on and near Darlington Avenue, N. W., from West Seventy-fourth to Seventy-sixth Streets.

Perfection Spring plants and nine parcels, two leased for ninety-nine years, on Central Avenue, S. E., between East Sixty-fifth and East Sixty-ninth Streets.

Pontiac Spring plant and four parcels of land at Pontiac, Mich.

Cleveland service station at 6515 Carnegie Avenue, S. E., and all machinery.

New York service station and two parcels of land.

One hundred shares of the Standard Parts Co. of Delaware, which operates service station in Boston, Mass.

Bock Bearing Co., 11,695 shares of common stock of this Toledo concern, owned by Standard Parts Co., West Seventieth Street plant at West Seventieth and New York Central Railroad. Plant is of brick and stands on land leased for ninety-nine years.

American Axle plant, Lake Avenue, N. W., and New York Central, together with machinery and three parcels of land.

Hess Spring & Axle plant at Cincinnati and six parcels of land there.

Canton Spring plant in Canton, Ohio, building, machinery and land.

Patents and trade marks, inclusive of all the patents assigned to the Standard Parts Co., of which there are more than 100.

Factory Sales Officials Should Give Dealers Help in Studying Conditions in the Retail Field

By D. J. WILLOUGHBY

Sales Manager of the Columbia Motor Car Co.

Detroit, Feb. 21.

WITH a year of big business in the automobile industry opening before us, it becomes the duty of factory sales officials to study the retail market so that they may help their dealers to get all the business their territories can be made to yield.

Columbia has just completed an analysis of the retail sales market from which it has worked out a text book on business getting, which it will expect its dealers to follow in order that they may reach logical buyers in their price class. Dealers who are enabled to reach quickly the persons who are in position to buy in their price class are working efficiently.

Too little attention has been given the dealer by the factory and he has been left almost exclusively to develop his business as best he could. This was all right in the days when everyone wanted automobiles and nobody had any. A large part of the dealers have never had the business training necessary to meet present-day conditions and the factory must help them.

The financial situation is improved to such a degree that there is little difficulty experienced by dealers in getting all the credit accommodations they need from banks. In the Eastern cities, banks are financing dealers up to 90 per cent of the cost of the car at rates of about 6 per cent. This is largely the condition east of the Mississippi. West of the Mississippi the situation is not so good, but it is vastly improved and with the farm market opening the banks are sure to extend their facilities.

There is no question about the farm demand. Business is opening up throughout the entire country and dealers are hastening back into the field. From one farm district alone, in which there has been no representation for several years, we have had seven applicants for sales rights and similar conditions obtain in many other sections.

There is just one section that has failed to respond to the improvement noted generally throughout the country, and that is the Northwest territory taking in Montana and the Dakotas. In the East, dealers are bending every effort to get cars but are forced to wait because of the poor railroad conditions.

Closed car business is giving place to open cars now that the winter has about passed. Although there is a constantly enlarging closed-car market, the open car will continue to dominate in total sales, principally because of lower prices.

New Issue Is Offered of Motor Wheel Bonds

NEW YORK, Feb. 19—The National City Co. is offering a new issue of $2,000,000 ten year sinking fund 6 per cent gold bonds of the Motor Wheel Corp., dated March 1, 1923, and due March 1, 1933, at a price of 96 and accrued interest to yield about 6.55 per cent. The bonds are redeemable as a whole or in part at 103 if redeemed on or before March 1, 1926; at 102 thereafter, if on or before March 1, 1929; and thereafter at 101.

The bonds will constitute the only funded debt of the corporation, with the exception of certain purchase money obligations, incurred in connection with recent acquisitions, which are expected to be paid off in the near future. The trust agreement will provide for a fixed semi-annual minimum sinking fund sufficient to retire $100,000 principal amount of these bonds in each year, beginning Jan. 15, 1924.

As an additional sinking fund the corporation is to pay semi-annually out of surplus earnings a further sum sufficient to retire an additional $100,000 principal amount of bonds in each year.

Durant Announces Buying Glass Plant

Capacity of Kane, Pa., Factory Is Between 5,000,000 and 6,000,000 Sq. Ft. Yearly

NEW YORK, Feb. 19—Declaring that the production of automobiles this year will be regulated by the ability of glass manufacturers to produce plate glass in sufficient quantities to meet the requirements of motor car manufacturers, W. C. Durant today announced that on Dec. 20, 1922, he had purchased the entire stock of the American Plate Glass Co., located at Kane, Pa.

"Its buildings, furnaces and equipment are in excellent condition and its capacity is between 5,000,000 and 6,000,000 sq. ft. of plate glass a year—sufficient to meet all the requirements of Durant enterprises for some time to come," says the announcement. "Its relationship with Durant automobile body builders will be similar to that existing between the National Plate Glass Co. and the Fisher Body Corp., which the latter owns and controls. The American Plate Glass Co. will be independently financed."

According to statisticians, three concerns—Fisher Body Corp., Ford Motor Co. and Durant Motors—control one-third of the country's total plate glass production. It is estimated that this production is about 120,000,000 sq. ft. a year, of which Fisher controls between 25,000,000 and 30,000,000, Ford in the neighborhood of 7,000,000 and Durant about 6,000,000.

Surplus Increased $20,000,000

It is also stated that Durant Motors, Inc., surplus for the year ending Dec. 31, 1922, has been increased over $20,000,000, and that the book value of the stock as of that date was approximately $53 a share.

The company reports that the financial statement of the Durant Motor Co. of Michigan shows that the invested capital of Dec. 31, 1922, was $1,400,310, and that the net profits for the year 1922 were $1,437,749. These net profits are exclusive of $237,495 set aside for Federal income, State and local taxes, and $71,754 written off to set up as a reserve for depreciation of buildings, etc. This, it is stated, is equivalent to more than 100 per cent on the investment, 60 per cent of which goes to Durant Motors, Inc., and 40 per cent to the stockholders. This stock now is quoted at $30 a share.

Ford Gets 6,000,000 More Feet

DETROIT, Feb. 17.—Purchase by the Ford Motor Co. of the Allegheny Plate Glass Co. plant at Glassmere, Pa., will give 6,000,000 sq. ft. of plate glass a year for use in manufacture of its closed bodies and windshields. The company's requirements are for more than 10,000,000 feet of glass yearly, so that there will be no surplus for sale to supply sources as in the case of other materials manufactured or mined by the company.

Following the purchase, Ford increased the wages of the employees 80 per cent, common laborers being paid 62½ cents an hour at the start. Laborers hired at this wage will be employed on sixty days' probation and if their work proves satisfactory will receive 75 cents at the end of this period. The standard working day at the plant will be eight hours. No person under 20 years old will be employed.

The plans of the company for the manufacture of glass at its River Rouge industrial city will proceed without change as it is declared that the entire product of both plants will be needed to meet requirements.

The main reason for the acquisition of the glass plant is found in the demand for closed bodies, which is running higher than at any time. Estimates on closed business this year have been placed at 30 to 40 per cent. Extent of the closed car business is holding production to somewhat lower figures than normally, and considerably below the sales mark. February will fall about 25,000 short of demand from dealers.

With the completion of its new body assembly plants in Chicago, Los Angeles and other points the company will be in position to meet all needs, and the plate glass purchase now completed makes this material supply source secure.

Henry M. Leland Reaches His Eightieth Birthday

DETROIT, Feb. 17.—Henry M. Leland, former president of the Cadillac Motor Car Co. and founder of the Lincoln Motor Car Co., from which he is now retired, celebrated his eightieth birthday yesterday. As a proof of his remarkable vigor at that age Mr. Leland walked downstairs from his office on the twenty-second floor of the Dime Bank Building to the ground floor and then walked back up again.

The veteran car manufacturer was the recipient of many messages of congratulation, and received also a basket of eighty roses representing a group of eighty friends with the name of each attached to each bloom. Among these was one from H. H. Rice, president of Cadillac, which read: "Heartiest congratulations. Best wishes for many more years of useful service, the example of which has been an inspiration to so many."

BODY COMPANIES MERGE

DETROIT, Feb. 17—The S. & S. Body Co., Detroit, and the National Body Co. of Bay City have been merged under the name National Body Co., and will manufacture commercial bodies in Bay City.

The company is capitalized at $100,000 and has purchased a plant from the International Mill & Timber Co. Salesrooms will be maintained in Detroit and other truck centers.

Ryan-Bohn Foundry Wishes to Dissolve

In Applying to Court, Company Says It Cannot Continue Without Refinancing

DETROIT, Feb. 21—Ryan-Bohn Foundry Co., Lansing, specializing in the manufacture and machining of cast parts, has filed papers in the Circuit Court asking authority for dissolution. Application was also made to the court for the appointment of a receiver to operate the company as a going concern until final disposition of the dissolution proceedings is made. It is declared in the application that the company cannot continue without refinancing.

In its statement it says that it has big contracts with three important companies and that it would be possible to operate the plant at a profit if it were unharassed and working capital were available. Operating of the company has been rendered impossible, according to the petition, by threatened suits as a result of inability to fill contracts which were bid in at prices now below cost.

Another contributing factor to operation at loss in the past few months is declared to be a contract for the purchase of iron at $40.50 a ton, which is in excess of prevailing market prices, and on which there are still 1986 tons to be delivered. Enforcement of the delivery makes for production costs in excess of its contract prices, the company said.

The officers of the company are Edward VerLinden, president and treasurer; D. J. Ryan, vice-president, and E. C. Shields, secretary. The company was organized in January, 1920, with an authorized capitalization of $2,000,000. Liabilities independent of stock total $685,823. Current assets are $2,000 in cash and about $50,000 in accounts receivable.

Monsen Heads Company to Manufacture Revere

LOGANSPORT, IND., Feb. 19—A new Revere Motor Co. has been incorporated in Indiana to manufacture the Revere car and the Monsen engine, and has purchased from the receiver the assets of the old Revere Motor Car Co. Capitalization of the new company is $250,000.

In announcing the formation of the company, Adolph Monsen, vice-president and general manager, said that the company would not undertake to get into large production, but would confine its efforts to producing a high grade car in limited quantities. Other officers of the company are: President, Charles E. Barnes; treasurer, Henry A. Kraut, and secretary, Fred J. Steffens.

Bessemer-American Merger Sanctioned

Stockholders Take Favorable Action—Proctor W. Hansl Becomes President

PHILADELPHIA, Feb. 21 — Stockholders have voted favorably on the consolidation of the Bessemer Motor Truck Co. of Philadelphia and the American Motors Corp. of Plainfield, N. J., makers respectively of the Bessemer truck and the American passenger car, and the merger will take effect immediately. The new company will be known as the Bessemer-American Motors Corp., whose securities will be issued to stockholders in exchange for their present holdings, in accordance with a pre-arranged plan.

Arrangements now are being made to consolidate the manufacturing operations of the two properties at one plant, but sales activities will be handled independently of each other as heretofore.

The consolidated company will be headed by Proctor W. Hansl, prominent in the reorganization of American Motors, while Robert Bursner will handle finances and also assume general supervision of the passenger car division.

I. M. Lewis, formerly vice-president of the Hydraulic Pressed Steel Co., will head the truck division and also be responsible for production and general coordination of activities between the two organizations as vice-president and general manager.

E. J. Fithian, treasurer of the Bessemer Gas Engine Co. of Grove City, Pa., will continue to have an active part in the new organization, while E. F. Von Tackey of Titusville, Pa., and William Newcorn of Plainfield, N. J., will represent important interests on the board.

Under single management it is estimated that the operating expense of both organizations will be substantially reduced by a corresponding gain in earnings and as a part of the plan of consolidation the companies will be provided with additional working capital in excess of $200,000, it is said.

Auto Body Earnings Cut by Low Price Contracts

DETROIT, Feb. 17—The Auto Body Co. will show a slight deficit in its annual report for 1922 owing to the acceptance of a number of low price contracts which were made to keep the factory operating, W. V. C. Jackson, vice-president and general manager, stated at the annual meeting this week. These contracts will soon expire, he said, and the company has over a million dollars' worth of business on the books for 1923 on which it expects to realize satisfactory earnings.

Gross business during 1922 approximated $1,600,000 as against $800,000 the year previous. On the basis of present operation this total will be greatly exceeded in 1923, and will be reached on a new basis of prices. The low price contracts were made at a time when all body companies were bidding for business, it was declared. Conditions in the body building field, owing to the increase in demand for closed models, is now reversed.

The company is seeking adjustments in prices on the unfilled contracts now on its books, which will permit it to go ahead with all its work on a safe earning basis. No changes in the board of directors were made, and it is expected that the same officers will continue in control.

Ford Purposes to Build 129,000 Cars This Month

DETROIT, Feb. 18—Ford Motor Co.'s schedule of 129,000 cars in February will mean a production of about 5400 daily in the twenty-four working days that the month affords. The highest daily mark the company has ever made was 5699 in August last year.

Total production in January was 119,513 cars and trucks, by far the largest mid-winter month's mark the company has ever reached. Of this total 8368 cars and trucks were built in the foreign plants, with 5758 built in the Canadian factory. The foreign figures by plants were Buenos Aires, 2441; Copenhagen, 701; Manchester, 3,141; Cadiz, 460; Sao Paulo, 603, and Bordeaux, 1022.

Daily production of Fordson tractors during February will approximate 400. In January the River Rouge plant built 7904 tractors, while a year ago in that month there was little, if any, activity in the tractor plant.

Expansion in Atlanta

ATLANTA, Feb. 20—A program of expansion that will increase the capacity of the Atlanta plant of the Ford Motor Co. has been announced by officials of the company here, and work on the project is already under way.

About 25,000 sq. ft. of floor space are being added to the factory proper, increasing the assembling capacity from 150 cars daily to about 225. This, officials state, has been made necessary by the remarkable increase in business the past half year, the largest in the history of the local plant.

The present year it is planned to turn out 50,000 Ford cars and 5000 tractors at the plant.

French Collect Luxury Tax From Manufacturer

PARIS, Feb. 10 (*by mail*)—The French 10 per cent luxury tax on car sales in future will be collected from the manufacturer instead of from the dealer, and will be abolished on used car sales. It is to be assumed that for imported cars the tax will be collected at the port or after controlling the importer's turnover in the case of an established firm.

Kelly Tire's Gross Profit $12,531,379

Amount Available for Common Stock Dividend Reported to Be $2,526,250

NEW YORK, Feb. 19—The annual report of the Kelly-Springfield Tire Co. shows gross profits of $12,531,379 for 1922 against $6,004,521 in 1921. Net income before dividend payments amounted to $3,144,549 against a deficit of $506,960 in the previous year. These figures are before reserves for Federal taxes.

After allowing for dividends on both the 6 per cent and 8 per cent preferred stocks in 1922, the balance available for the common stock amounted to $2,526,250. This was equal to 27.77 per cent or $6.94 a share earned on the $9,096,002 capital common stock of $25 a share par value outstanding.

The balance sheet at the close of 1922 showed net current assets of $15,588,254 against current liabilities of $1,557,401. The profit and loss surplus amounted to $9,368,556.

Net current assets were divided as follows: Cash, $1,836,462; accounts receivable, $5,708,893; customers' notes receivable, $11,601; notes secured by mortgage, $221,000; other notes receivable, $28,280; preferred stock at cost, $130,925, and inventories valued at $8,018,034.

The income account for 1922 as shown in the annual report, compared with figures for 1921 follows:

	1922	1921
Gross profits	$12,531,379	$6,004,521
Operating expenses	7,305,176	4,567,427
Operating income	5,226,203	1,437,094
Other income	351,643	445,915
Net income, less interest, depreciation, etc.	3,144,549	*506,960
Six per cent preferred dividend	181,113	190,776
Eight per cent preferred dividend	437,186	459,416
Common dividend	.....	322,776
Surplus	2,526,250	479,928

* Deficit

Hoist Creditors Receive Dividend of 22 Per Cent

MILWAUKEE, Feb. 21—Creditors of the Perfection Hoist & Engine Co. of Two Rivers, Wis., formerly of Milwaukee, have received a first dividend of 22 per cent of claims, following the disposition of all of the assets with the exception of patents and trademarks on a mechanical hoist and engine.

The company built and equipped a plant two years ago, but was unable to get into regular production because of the lack of working capital and recently it was decided to liquidate.

A second dividend is expected to be paid out of current proceeds and the return from the sale of the patents. Machine tools and other machinery were disposed of to Milwaukee concerns.

State Control Urged for Transport Lines

Railway Executives at Washington Conference Favor Bus and Truck Regulation

WASHINGTON, Feb. 19—Prominent executives of the American Electric Railway Association at their midyear conference here last week discussed the competition of motor transport and presented their views on the control of the bus as a common carrier.

Among those who spoke were C. D. Emmons, president of the association; Dwight N. Lewis, president of the National Association of Railway and Utility Commissioners; John A. Prescott, president of the Investment Bankers Association and Secretary of the Interior Fall. Each of these speakers referred to motor transport as a transportation force that must be recognized, and the keynote of most of the speeches was the need of State regulation of bus and truck lines.

Quotes President Harding

Emmons endeavored, by inference, to put President Harding in the position of sponsor for motor bus regulation. He quoted a portion of the President's annual message to Congress, "If freight traffic by motor were charged with its proper and proportionate share of highway construction, we should find much of it wasteful and more costly than like service by rail."

According to Emmons, "the President also declared that 'highways should be made to serve as feeders rather than as competitors of the railroads.' This is true. The only possible solution of our transportation problem lies in the proper co-ordination of the electric railways, the steam railroads, the motor truck and the motor bus, with each medium functioning in the field for which it is most economically suited."

Regarding the competition of motor and electric lines, Emmons said in part:

In many communities where the spirit of mutual cooperation exists, electric railways are voluntarily supplementing their service with buses, and the authorities, recognizing the advantage of a single dependable transportation system, are protecting the companies against unfair competition. The public in more communities is doing its part in recognizing that the investor is entitled to a fair return on his investment, and does not object to a rate of fare which will protect the credit of the company.

Recognizes Value of Lines

Lewis told the executives that "the motor car should not be driven out of commission, but should be as strictly held to account as are street railways, and should bear its proper share of the public expenses." As to the restrictive measures dealing with public regulation of motor transport, he said:

No legislation should be enacted that will prevent establishment of needed and desirable motor bus and truck service for the public good, but most assuredly established investment in street railways and interurbans should be safeguarded in the interest of good service to the public, against the piratical and destructive competition that has been so prevalent everywhere.

In this matter, as in all others affecting public utilities, the American people are fair when the situation is thoroughly understood.

The bus and truck usually insist on paralleling, as nearly as possible, the electric interurban railways. To my mind, this is neither fair to the public nor just to the owners of the interurbans.

The cities out our way have had their fling with city passenger buses, and I believe they are through with them, except, maybe as feeders for car lines, which I am glad to note your Association believes in and advocates.

In stating that bus lines are not as prosperous as is generally believed, Lewis said:

From a cursory examination of the financial statements of many bus lines over the United States for 1921, one is struck with the fact that the operating expense is practically the same as the gross revenue; in many cases more. Five bus companies making detailed reports as to operation in 1921, located in California, show a deficit of $42,738 on a capital investment of $1,927,502.

The Iowa Utility Commission, Lewis said, believes that electric carriers should educate the travelling public as to the advantages of their transportation systems.

Secretary of Interior Fall was the honor guest at the banquet. He spoke in favor of regulation, calling attention of the executives to the fact that those

(*Continued on page* 497)

Fitzgerald Production Was Tripled Last Year

TORRINGTON, CONN., Feb. 20—The Fitzgerald Manufacturing Co., manufacturer of cylinder head gaskets, reports that 1922 was one of its most prosperous years, with factories both in this city and in Winsted, Conn., operating at full capacity and both electrical and gasket departments showing marked increases over the previous year.

In the gasket department production was tripled in 1922 and preparation for the current year includes the addition of equipment and facilities to this department capable of turning out 50,000,000 gaskets.

It is stated that this production is assured inasmuch as branch offices have been opened in New York, Chicago, San Francisco, Dallas, Texas, and Toronto, Ont.

OPEN CAR DEMAND INCREASES

DETROIT, Feb. 17—Guy H. Peasley, general sales manager of the Olds Motor Works, declares January and February production this year will compare favorably with peak months in any former year. Olds executives have predicted that production would be moved three months ahead this year as compared to other years. January retail business has been largely in open models mostly for deliveries deferred one and two months.

Bassick Companies to Be Consolidated

Holding Company Formed to Acquire Concerns in Chicago and Bridgeport

CHICAGO, Feb. 20—Announcement has been made here of the formation of the Bassick-Alemite Corp., a holding company, to acquire complete ownership of the Bassick Manufacturing Co. of Chicago and the Bassick Co. of Bridgeport, Conn. The Bassick Manufacturing Co. makes the Alemite lubricating systems for automobiles, and the plants of the Bassick company at Bridgeport, Meriden and Newark produce automotive hardware and a number of accessories, in addition to a general line of hardware.

The new corporation will have 200,000 shares of no par value common stock, a limited amount of which will be offered for public subscription. In addition there will be authorized 5,000,000 shares of 7 per cent preferred stock, par 100, but for the present none of this will be issued.

Working capital is to be provided by an issue of $1,250,000 7 per cent serial notes, which will be offered to the public through the Central Trust Co. of Illinois.

E. W. Bassick will remain at the head of the new corporation as president and will retain his financial interest. It is probable that the general offices of the new corporation will be in Chicago.

It is the purpose of the new corporation to expand and enlarge the business of the company by the addition of products and further introduction of the products now being made.

The Alemite lubrication system is to be pushed in the automotive field and probably introduced in the general machinery field. The Bassick Manufacturing Co. now operates fifty-two service stations where Alemite equipment for automobiles is installed and serviced. This service organization is to be enlarged, according to present plans.

Sales at Brussels Show Exceed Returns in 1921

PARIS, Feb. 10 (*by mail*)—Makers and dealers generally are satisfied with the results of the Brussels Show, declaring that the volume of sales has been greater than in 1921. The number of persons visiting the exhibition during the 13 days it remained open is given as 200,000, with gate receipts 20,000 francs in excess of the last show.

The greatest volume of sales was in low and medium priced cars, but higher class cars were not neglected. In several cases makers announced that prices were only guaranteed until the end of the show, and in consequence this helped to bring in orders. The wild fluctuations in exchange rates, and the unsettled political outlook were not favorable to business, but despite this the demand was brisk.

Syndicate May Bid for Overland Stock

Willys Corp. Receiver Holds Block for Which He Has Been Offered $2,000,000

TOLEDO, Feb. 20—Following the announcement of the bank creditors committee of the Willys Corp. to the preferred stockholders of the Willys-Overland Co., that they wanted the assets of the corporation to be liquidated by April 1, if possible, there has been considerable talk in Toledo of the organization of a big syndicate to bid in the block of common stock of Willys-Overland held by the receivers.

The block represents about a third interest in the local company. It is understood that the receivers have had one bid of about $2,000,000, or at a rate of $2.50 a share, for the entire block, which has been turned down, with market prices about $8 a share. It has been suggested that preferred stockholders take over the common stock held by the corporation receivers.

Willys-Overland now is in the best shape it has been in for many months with production about 700 cars a day and orders coming in faster than production increases.

The identity of the local syndicate is not known, but it is understood the group will be prepared to bid considerably higher than $2,000,000 to keep the control here.

Sale of the common stock of the Bock Bearing Co. by the receiver for the Standard Parts Co., Cleveland, will also probably be taken up by a Toledo syndicate.

Spring Salon Scheduled for New York, May 13-20

NEW YORK, Feb. 20—Exhibitors in the annual Automobile Salon, which is held each winter in New York and Chicago, have decided to hold a spring opening exhibition in New York, and have selected May 13 to 20 as the dates.

The affair will be held in the Hotel Commodore. A change in policy has been made, whereby a limited number of accessories exhibits will be permitted.

Space reservations already have been made by Rolls-Royce, Locomobile, Cunningham, Isotta-Fraschini, Minerva, Duesenberg, Hotchkiss, Benz, Daniels and Leon Rubay, while such custom-built body manufacturers as Fleetwood, Le Baron, Holbrook, Locke and Healey have been booked.

STEEL FOUNDERS EXPANDING

DETROIT, Feb. 19—The Electric Steel Founders' Research Group, composed of the Electric Steel Co. of Chicago, Fort Pitt Steel Casting Co., Lebanon Steel Foundry, Michigan Steel Casting Co. and the Sivyer Steel Casting Co. has decided to expand the scope of its work and to provide for greater activity through its Committee on New Uses for Steel Castings. For this purpose W. J. Corbett has been engaged as industrial engineer, to be associated with R. A. Bull, research director. Corbett's headquarters will be at the group's central office, 639 Diversey Parkway, Chicago.

M. A. M. A. Has Chosen New Export Committee

(*Continued from page* 486)

Great Britain, Spain, South Africa, India and elsewhere, the improved financial condition is going hand in hand with an enlarged volume of automobile business, this naturally resulting in the placing in this country of larger and more frequent orders for all classes of equipment.

A serious service problem is being created in many countries by the greater number of automobiles in operation. This problem is comprehended by numerous American manufacturers, who are taking the proper steps to see that their equipment is being cared for adequately in those other territories. Numerous companies, however, have not realized the importance of this development and are not adequately considering the foreign demand for the products which they manufacture or sell.

We may look for further expansion during the coming months in the foreign demand for practically every class of material manufactured by the members of the Motor and Accessory Manufacturers Association.

G. M. Declares Dividend for Quarter on Common

NEW YORK, Feb. 21—Directors of the General Motors Corp. at their meeting here today declared a dividend upon the no par value common stock of thirty cents a share for the first quarter of 1923, payable March 15 to stockholders of record at the close of business on March 3, 1923.

During 1922 no quarterly dividends were paid on common, but there was a special dividend of fifty cents a share paid on common Dec. 20, 1922. During 1921 the dividend rate was $1 a share per annum, payable twenty-five cents quarterly.

There has been no interruption in the quarterly dividends on the senior securities since they were issued, and the last quarterly payment on these senior issues was paid Feb. 1, 1923. The next payment is due May 1, 1923.

Hoover Would Hurry Figures on Imports

Asks Congress for $150,000—Work of Compilation Is Now Four Months Behind

WASHINGTON, Feb. 21—Secretary of Commerce Hoover has asked Congress for an emergency appropriation of $150,000 for the purpose of compiling import figures under the new tariff act. The fact that it was impossible to gage the volume of imports of automobile products for October until now indicates the condition in the Statistical Division of the department.

The department is practically four months behind in compiling import figures and also is delayed in compiling export figures.

This is due to the new classifications of exports, which was made about one year ago, and to the enlarging of the import classifications since the new tariff law went into effect.

The classifications are more definite in character and much more informative to business interests of the country interested in the specific nature of imports and exports. This has greatly increased the work, however, of the Bureau of Foreign and Domestic Commerce and the Customs staff, which the Department of Commerce recently absorbed, but there was no coincident increases made in the force of employees.

Operations of Last Year Wiped Out India Deficit

AKRON, Feb. 21—The India Tire & Rubber Co. reports that a deficit of $274,487, existing on its books on Dec. 31, 1921, was entirely wiped out by 1922 operations of the company, and that $143 was carried to surplus after paying off the indebtedness. Net earnings of the company on sales of approximately $2,000.000 were $274,630.

The company's statement shows current assets of $574,072, inventories of $416,019; fixed assets of $651,295, and other assets of $27,492, for a total of $1,668.880. Current liabilities were given at $224,203 and accrued items were placed at $13,702.

Table of Imports and Reimports of the Automotive Industry for October, 1922, and Ten Preceding Months

	Oct., 1921		Oct., 1922		Ten Months Ending Oct. 31—1921		1922	
IMPORTS	No.	Value	No.	Value	No.	Value	No.	Value
Automobiles and chassis..	62	$75,074	94	(b)$128,597	461	$773,845	363	(b) $626,196
Other vehicles and parts for them (a).....	..	55,499	...	54,103	...	937,590	...	589,336
REIMPORTS								
Amount of duty collected	..	.....	...	(b) 50,000	...	.....	...	(b) 50,000
Automobiles (free of duty)	130	237,187	262	(b) 403,456	3,312	5,258,944	1,379	(b)2,274,728

(a) Under the new classification by the statistical division of the Department of Commerce, this includes bodies, parts of except tires, aircraft, bicycles and parts except tires, motorcycles and parts except tires, motor boats and parts, railway cars and parts, carriages, drays, trucks and parts.

(b) From Sept. 22 to Oct. 31, under new tariff bill.

Sherman to Return to Class Journal Co.

Will Become Business Counsel, Having Resigned as A. E. A. Merchandising Head

CHICAGO, Feb. 15—The Merchandising Committee of the Automotive Equipment Association yesterday announced that Ray W. Sherman has resigned as merchandising director to again become connected with the Class Journal Co., as business counsel of that company. Sherman resigned the executive editorship of the Class Journal papers almost two years ago for his recent connection with the A. E. A. Merchandising Committee. He now returns to the same company but will be connected with the business department instead of in editorial work. Arthur R. Mogge, recently of the Gibson Co., Indianapolis, will relieve Sherman March 15.

Committee Pays Tribute

The committee's announcement, signed by R. A. Stranahan, chairman, follows:

"We regret to announce that March 15 we are going to lose the services of our merchandising director, Ray W. Sherman, who has so ably conducted the work of the association during the last year and a half.

"An unusual opportunity has been presented to him and we wish to express our appreciation of the excellent services he has rendered and extend our best wishes for his success as business counsel of the Class Journal Co.

"The program of the Merchandising Committee now under way will be continued by the department as now organized and with the assistance of Arthur R. Mogge, formerly with the Gibson Co.

"The Merchandising Committee."

Sherman was with the Class Journal Co. for nine years prior to going into the merchandising work. From the position of a reporter on *Motor World* he had become the editor of that publication and was then advanced to the executive editorship of the company. On his return to the company he will take up development work for the business office.

Would Have Work Continue

"The association's merchandising work," Sherman stated, "should be carried on for a long time to come. The need is still great and the A. E. A. has proved that results can be secured. The 'One Salesman, One Dealer, One Million' campaign now in progress is showing increases of $1,000 and more a month with most of the dealers enlisted in the effort. All that is needed is a continuation of the effort and the automotive equipment industry man can attain a volume that will increase far above the proportionate increase in number of cars sold.

"All the people in the industry, regardless of their product, must realize that the profit of the 'after market,' which comes after the new car is sold, is and can be greater than the profit in new cars themselves. From this market also must come the volume and profit that will build prosperous and substantial dealers, garagemen and repairmen.

"The results secured by the A. E. A. are a tribute to the members of that organization and all their employees and salesmen. It is effort, not money, that brings success in work of this kind. To those who have made the effort has come and will come the reward, and a continuation of the effort cannot fail to bring a return in business volume."

Stockholders Give Assent to Pierce-Arrow Plan

BUFFALO, Feb. 19—Approval of the plan for financing the floating debt of the Pierce-Arrow Motor Car Co. has been given by the stockholders. At the meeting which acted on the proposition, it was reported that the company's current assets now amount to $12,337,274, of which more than $10,000,000 is in inventory account.

The plan which was drawn up for the purpose of paying off the company's bank loans and other floating debts provided for the sale and issue of $3,500,000 one-year 6 per cent secured notes, the creation of an issue of $6,000,000 first mortgage bonds, $4,200,000 8 per cent debentures and 15,750 shares of preference stock and 78,750 shares of additional common stock.

Under the plan none of the $6,000,000 first mortgage bonds were to be sold, but $4,200,000 bearing 7 per cent interest were to be pledged to secure the $3,500,000 of one-year notes. The prior preference stock created will be distributed as a bonus to buyers of the debenture bonds. All of the securities have been underwritten by a syndicate of bankers representing the company. The bank loans which are to be liquidated amount to approximately $7,150,000.

Peerless to Pay Notes Outstanding on May 10

CLEVELAND, Feb. 21—All of the Peerless Truck & Motor Corp.'s 6 per cent secured convertible gold notes which may be outstanding on May 10, next, will be paid off and redeemed by that corporation at face amount, with a premium of 2 per cent and accrued interest.

The notes are not due until Nov. 10, 1925, but the corporation has elected to exercise the right conferred on it by the trust agreement of Nov. 10, 1915, with the Bankers Trust Co. of New York.

Interest will cease from and after May 10, 1923, and coupons maturing after that date will be null and void. Holders will be required to present the notes for payment and redemption on May 10 at the offices of the Bankers Trust Co. in New York.

Foreign Association Headed by Briton

Lanchester Succeeds Marchesi as New President of Bureau Permanent

PARIS, Feb. 10 (*by mail*)—Frank Lanchester, the British delegate, was elected president of the Bureau Permanent, at its Paris meeting this week, in place of M. Marchesi, the Italian delegate, who retired by rotation. The vice-presidency was taken by O. Galopin, the Belgian delegate. Henri Cezanne was re-elected secretary and treasurer of the Bureau.

The Bureau Permanent, which is an association of delegates from all national automobile manufacturers' associations, with the exception of ex-enemy nations, discussed at this meeting the question of national import duties, but did not adopt any resolutions.

The active program mapped out comprised international action with the object of reducing the present high State taxes, which undoubtedly are having a very restrictive influence on automobile development in France, England and Italy. International uniformity in horsepower ratings is being sought.

At present each nation has its own system of determining horsepower, and, as power is generally the basis of taxation, there is every advantage in having a uniform system of calculation. The French formula, which takes into consideration bore, stroke and number of revolutions appears to have the greatest support.

The Bureau is about to study the question of gasoline costs, and the phenomena of variations in gasoline price. All State taxes and import duties eliminated, gasoline costs 50 per cent less in Belgium than in France. Uniformity in railroad rates will be inquired into.

Over certain European routes cost of shipment by rail can be reduced in important proportion by doubling the mileage. The next meeting of the Bureau Permanent, at which America has been invited to be present, will take place in Paris in May.

JOHN J. McNAMARA DEAD

BOSTON, Feb. 19—John J. McNamara, automobile editor of the *Boston Post* for many years and one of the best known men in the advertising field, died here this evening of pneumonia. He caught cold just after returning from the Chicago Automobile Show.

HIGHER GASOLINE PRICE

CHICAGO, Feb. 19—The Standard Oil Co. of Indiana today increased the price of gasoline one cent in the ten middle western States that it serves. This makes the Chicago price 20 cents a gallon from tank wagons and 22 cents a gallon at service stations.

Men of the Industry and What They Are Doing

Rupp Heads Maccar Truck

R. C. H. Rupp has been elected president of the Maccar Truck Co. of Scranton, Pa., succeeding A. B. Warman, who becomes chairman of the board of directors. W. D. Woodworth, formerly of the Packard Motor Car Co. and for years general manager of the Wood Hydraulic Hoist & Body Co., has been chosen vice-president and general manager, while C. A. Weymouth has been appointed director of sales.

G. M. Truck Promotes Hurst

H. L. Hurst, who has been assistant general manager of the General Motors Truck Co., has been elected a vice-president of the company. Hurst has been with the truck company for the past ten years in various capacities, starting as comptroller. Prior to that time he had been in the farm implement business in Kansas City. He has been associated with W. L. Day, now president of the truck company, for many years. In his new position he will be second officer in charge of factory affairs. O. E. Stoll, manager of the New York branch, and a vice-president of the company, continues in charge of the eastern territory.

Cardway Pierce-Arrow Export Head

Col. Fred Cardway, formerly vice-president and general manager of the Packard Motors Export Corp., has been appointed head of all overseas trade of the Pierce-Arrow Motor Car Co., with offices at 342 Madison Avenue, New York City.

Ruggles Appoints Swiss

Herbert H. Swiss, recently export sales manager of the Republic Truck Sales Corp., has been appointed foreign sales manager for the Ruggles Motor Truck Co., Saginaw, Mich., and the Ruggles Motor Truck Co., Ltd., London, Ont. Swiss has a broad acquaintanceship overseas.

Mithoff Succeeds Dixn

Ravon V. Dixn, for the past two years in charge of production in the advertising department of the Cadillac Motor Car Co., has been transferred to the Detroit branch of the company, where he will have charge of sales promotion, advertising and publicity for both the wholesale and retail division. Warren T. Mithoff, formerly of Earl Motors, Inc., succeeds Dixn.

Young Is Sales Head at Janesville

O. A. Young of Denver has been appointed sales manager of the new Janesville, Wis., zone of the Chevrolet, with headquarters at the branch factory in Janesville, which has just started regular production. Young has been sales manager of the Denver zone and previously was assistant sales manager at the main offices in Flint, Mich. T. E. Houghton is plant manager of the Janesville Chevrolet works and A. J. Brand of the Fisher body unit of the Janesville works.

Reeves in South Carolina Resting

Alfred Reeves, general manager of the National Automobile Chamber of Commerce, has gone to Camden, S. C., for a few weeks rest following the big shows. He is vacationing with Col. Charles Clifton, president of the chamber, and also chairman of the board of directors of the Pierce-Arrow Motor Car Co., who spends the winters at Camden.

Whitworth Resigns

S. Whitworth, for the past five years assistant general manager of the Stutz Motor Car Co. of America, has severed his connection with the Indianapolis concern. He has not announced his plans for the future.

Amelung in Cleveland

W. A. Amelung has been placed in charge of the Cleveland office of the U. T. Hungerford Brass & Copper Co. of New York, which has been opened in the Leader Building.

Lloyd in East for Pilot

George H. Lloyd has been named eastern sales manager of the Pilot Motor Car Co. of Richmond, Ind., with jurisdiction over the eastern Atlantic seaboard and all territory east of the Allegheny Mountains from Maine to Maryland. At one time Lloyd was general sales manager of the Velie Motor Co., and for the past four years has served as eastern district manager for the Kentucky Wagon Manufacturing Co.

Mather Heads Association

Automotive men were honored with many of the offices at the annual election of the Merchants' & Manufacturers' Association of Toledo. Gordon Mather, president of the Mather Spring Co., was elected president; W. H. Kilpatrick, works manager of the Willys-Overland Co., was named first vice-president, and L. B. Wilson of the National Malleable Castings Co., treasurer. The organization represents 151 industries located in the city.

Klein Joins Eadie Trailer

Henry A. Klein has joined the Eadie Trailer Corp. of New York and will take charge of standardization of design and production of the company's patented devices for trailers and other four-wheeled reversible tracking vehicles. The Eadie Trailer Corp. was formed recently to take over the Eadie Vehicle Gear Co. John M. Eadie is president of the corporation.

Olds Promotes Dunning

H. C. Dunning, assistant general manager of the Olds Motor Works, has been named vice-president in charge of production. Dunning is a well known figure in the industry, being one of the group of executives who first saw service with the old Durant-Dort Carriage Co. at Flint. He has been associated with President A. B. C. Hardy on several undertakings before joining him at the Olds plant.

Travis Assistant to Durant

E. A. Travis, who has been general sales manager of the Locomobile Co. of America, a Durant enterprise, has been called into the executive offices of Durant Motors, Inc., in New York City, where he will be an assistant to the president, W. C. Durant, in connection with his Locomobile duties.

Miles to Visit Pharaoh's Tomb

Samuel A. Miles, general manager of the national automobile shows, has booked his passage for March 10 for his annual visit to England and France. His plans contemplate picking up Arthur E. Lumsden, European manager of the B. F. Goodrich Co., and then journeying to Egypt and visiting the tomb of Tut-ankh-amen.

Loisseau Visits GMC Truck Plant

G. Loisseau, the Paris distributor of GMC trucks in France, and W. L. Sherman, formerly General Motors Truck Co. export representative at Paris, have been visiting the Pontiac, Mich., factory. M. Loisseau said that American trucks were coming more and more into preference abroad and predicted that as soon as the tariff was revised by foreign countries sales would take a big increase.

Barnes Advertising Manager

Bert E. Barnes, formerly of Brooklyn, N. Y., has been chosen advertising manager of the Williams Bros. Aircraft Corp. of San Francisco, succeeding J. E. Hasty. Before going to the West, Barnes was vice-president of the Brooklyn Advertising Club, and a member of the Advertising Club of New York City. He was originator and editor of the "Blue Pencil," a publication devoted to house-organ and employee publications and for several years was advertising and publicity manager for the Morse Dry Dock & Repair Co., Brooklyn.

Will Demonstrate for Stoughton

Edwin J. Smith has resigned as highway commissioner of Dane County, Wis., to accept the position as manager of the truck fleet operated by the Stoughton (Wis.) Wagon Co. for highway demonstration purposes.

PERSONAL NOTES

Midgley Awarded Chemical Medal

Thomas Midgley, Jr., of the General Motors Research Corp., has been awarded the 1922 Nichols gold medal presented by the American Chemical Society to the author of the most exceptionally meritorious paper published during the year in the society's journals. Midgley, who is at the head of the fuel section of the Research corporation's laboratories at Dayton, Ohio, gained this honor through his contributions in developing an anti-knock compound to be used in the fuel of internal combustion engines. The medal will be presented at a dinner to be held in New York March 9, when Midgley will review the effects of anti-knock compounds on gaseous detonation and illustrate his remarks with slides. His talk will be accompanied by experiments.

Koether Addresses Engineers

B. G. Koether, recently appointed director of the advertising, sales and service staff of General Motors Corp. at Detroit, and a member of the advisory council of the Federated Engineers Development Corp. of Jersey City, N. J., was one of the speakers at the council's February meeting. The meeting was in the nature of a farewell for Koether, who is moving from Newark to Detroit to take up his new duties there. Among the speakers were Dr. Charles P. Steinmetz, vice-president of the organization; Sir Charles Higham of London, Dr. Bradley Stoughton, M. Wilson-Laurenson of the Union Carbide Co., E. St. Elmo Lewis and T. Irving Potter.

McNaughton Touring West

Lynn McNaughton, vice-president and general sales manager of Cadillac Motor Car Co., is on a six weeks' tour through the western territory, his immediate objective being the San Francisco show, which he will attend during the week Feb. 17 to 24. He will visit distributors en route, and following the show will cover the coast territory north to Vancouver and south through Texas, Arizona and Louisiana.

Hickey and Davidson Sail

Harrie T. Hickey of the sales-advertising-service section, advisory staff of General Motors Corp., Detroit, and W. J. Davidson, technical engineer of General Motors of Canada, sailed this week on the Berengaria for England, where they will join James D. Mooney, vice-president of General Motors, New York, for a six weeks' stay, to study service conditions in Great Britain.

Thompson in California

W. N. Thompson, president of the Stutz Motor Car Co. of America, Inc., has gone to California to watch the Stutz developments on the Pacific Coast following the introduction of the six.

WORLD'S AIR RECORD BROKEN BY LECOINTE

NEW YORK, Feb. 19—Cable advices from Paris state that Sadi Lecointe in a Nieuport-Delage plane, equipped with a 300 hp. Hispano-Suiza engine, has broken the world's speed record by flying four kilometers at the rate of 377.657 kilometers an hour, or 234.064 m.p.h.

This feat was accomplished last Wednesday at Istres, near Marseilles. The previous best record was 358.836 kilometers an hour, made at Detroit last October by General William Mitchell. Lecointe's time by kilometers was: First, 9 1/5 sec.; second, 10 sec.; third, 9 2/5 sec.; fourth, 9 4/5 sec.

S. T. Thompson Elected Secretary

S. T. Thompson, general manager of the Duplex Engine Governor Co. of Brooklyn, has been elected secretary of the company.

Ancillary Receiver Named for Carlisle Tire Company

NEW YORK, Feb. 20—Robert L. Baird has been appointed ancillary receiver of the Carlisle Tire Corp. and the Carlisle Retail Tire Stores, Inc., by Judge Hand of New York and Judge Campbell of Delaware. Equity receivership and bankruptcy proceedings are pending against both of these corporations in Delaware and Connecticut.

The Carlisle Tire Corp. was incorporated in November, 1919, and purchased the assets and assumed certain liabilities of the Carlisle Cord Tire Co. of Andover, Mass. The plant of the new company is located at Stamford, Conn., and when the deal was made Joseph M. Gilbert was president and J. S. Bretz, vice-president, both of whom are well known in the industry.

The corporation's capital stock is 300,000 shares of common of no par value and $3,000,000 8 per cent cumulative preferred of a par value of $25. Outstanding were 277,958 shares of common and $2,215,575 preferred. There was no funded debt. The corporation's real estate and equipment was valued at $697,142 as of Dec. 31, 1921.

RECEIVER FOR FALOR RUBBER

AKRON, Feb. 21—Walter T. Akers has been named receiver for the Falor Rubber Co., manufacturer of inner tubes. Upon application of Shelby Falor, president of the company and former Goodyear official, the original receivership, under which Charles F. Schnee was named receiver, has been abated and Akers has been placed in charge of the company. According to Falor the company is solvent, and the receivership was created as a matter of protection for the time being.

Prof. Terry, N. A. C. C. Law Counsel, Dies

Associated with Legal End of Industry Since Early Days of N. A. A. M.

NEW YORK, Feb. 20—Charles Thaddeus Terry, general law counsel of the National Automobile Chamber of Commerce, died last night of angina pectoris. His death comes as a blow to the automobile industry in which he long had been a leading legal light.

Terry's connection with automobile legislation and litigation, covering two decades, began in the days when the National Association of Automobile Manufacturers was in its infancy. Percy Owen, now president of the Liberty Motor Car Co. of Detroit and then secretary of the N. A. A. M., was responsible for Terry's affiliation with the automobile manufacturers, which lasted from 1903 to the present.

When the present National Automobile Chamber of Commerce succeeded the Automobile Board of Trade, which was the result of the merging of the warring interests of other days, Terry remained at the legal helm.

A fitting tribute to his legal ability was paid today by an N. A. C. C. executive, who said that Terry always had advised his automobile clients so well that they never got in the courts.

Identified with A. A. A.

As a car owner Terry took up the cudgel for the motorist and for years was chairman of the legislative committee of the American Automobile Association. In the early days he fought hard to prove his contention that the States had no right to compel owners to pay registration fees, and in one case, and that was a notable one, he got as far as the United States Supreme Court before losing the fight that was waged in New Jersey.

He prepared the Federal automobile law that was introduced in the Fifty-ninth Congress, and one of his famous victories was the New York State Restriction Act which was declared unconstitutional.

Terry was professor of law at Columbia University, and in 1919, as a member of the executive committee of the American Bar Association, came into national prominence through his opinion that the Kaiser could be extradited to this country under the treaty with Holland.

BILTWELL TIRE PLANT SOLD

AKRON, Feb. 21—A syndicate headed by A. L. Wheeler, Charles Snyder and L. J. Schott of Akron and J. J. Kent of Youngstown has purchased for $200,000 the plant of the Biltwell Tire Co. at Barberton and will reopen the factory within a few weeks. Biltwell has been in receivership for two years.

Viles Issues Report on Rubber Meeting

Hotchkiss Committee Told British Visitors It Would Abolish Stevenson Act

NEW YORK, Feb. 20—Following the return to England of the British commission which has been investigating conditions in this country in conjunction with a committee representing the Rubber Association of America, General Manager A. L. Viles has issued a report to members of the association, detailing the results of the joint conferences with the visitors over the effects of the Stevenson restriction act, which limits the export of crude rubber.

That the Hotchkiss committee which represented the association regards the act as a menace to American industry is shown by the section of the report that states that "your committee recommended that the Stevenson plan be abolished in its entirety, this recommendation being predicated on the firm belief that the natural conditions of supply and demand now existing will fully protect the plantation industry."

Foresees Effect on Industry

That portion of the just issued report referring to the results of the joint conferences reads as follows:

In presenting to the Rubber Growers Association committee facts regarding crude rubber consumption in 1922 and previous years, your special committee emphasized firm belief in the increased consumption of crude rubber for 1923 over 1922 and in the steady growth of American manufacturing industry, and that if this progress is not met by an increased production we confidently expect that our industry will be seriously injured.

Therefore, your committee emphasized to the R. G. A. committee that the restrictive plan as now operating lacks the flexibility necessary to meet our present and future requirements for crude rubber and also makes possible speculative price movements with serious consequences.

Your committee also expressed the fear that under the operation of the Stevenson plan, plantation production might decrease, whereas the utmost expansion is needed at the present time. It is the concensus of opinion that in a few years crude rubber needed by manufacturers will exceed the supply unless great strides are made in bringing additional area into production.

The committee requested immediate consideration by the Colonial Government's advisory committee, of which Sir James Stevenson is the head, of the announcement by the British Colonial Office or the local Colonial governments, that it use its discretionary powers with respect to the application of this scheme and release rubber without regard to quarterly periods or prices if necessary to prevent vild fluctuation as part of a speculative movement.

Your committee recommended that the Stevenson plan be abolished in its entirety, this recommendation being predicated on the firm belief that the natural conditions of supply and demand now existing will fully protect the plantation industry.

Your special committee emphasized to Secretary Hoover of the Department of Commerce their approval of his plans for a survey of other sources of rubber supply and our willingness to aid in the work if a Congressional appropriation were secured.

Your special committee will continue contact with the Rubber Growers Association and the Department of Commerce and with any other movement that can, in its opinion, help the situation. It should be clearly understood that the special committee will welcome at any time any suggestions or comments respecting the association's activities in this matter. Your committee feels that no activities should be undertaken by its members except through this association and until the report of the Rubber Growers' Association is forthcoming.

Question in Congress

WASHINGTON, Feb. 20—Three departments of the Federal Government are interested in the development of new sources of crude rubber in order to secure a supply to American industries. It is generally believed that the Department of Agriculture will have approximately $100,000 for experimental work in the Philippines and elsewhere, and $400,000 will be used by the Department of Commerce for a survey dealing with the question of comparative facilities, etc. Large American rubber manufacturers have strongly urged that this investigation be made at once.

Secretary of Commerce Hoover told the Appropriations Committee of the House last week that the increasing demand for rubber in this country will necessitate an increased production of approximately 50 per cent in the next ten years to meet the estimated consumption demands.

Star Rubber Net Sales in 1922 Were $1,514,362

AKRON, Feb. 22—The Star Rubber Co. reports net sales of $1,514,362 for the year 1922 and net earnings of $139,196. The volume of business in sales was 35 per cent greater than in 1921, while in units it was 46 per cent greater. The company reports inner tube production was 149 per cent greater than in 1921.

Officers of the company re-elected are L. H. Firey, president; Russell Robinson and W. A. Humphreys, vice-presidents; J. W. Dessecker, secretary and assistant treasurer, and R. S. Saalfield, treasurer.

Barley Puts on Display Its New Touring Sedan

KALAMAZOO, MICH., Feb. 16—The Barley Motor Car Co. put on display during show week the first model yet shown of its new touring sedan.

It is mounted on a standard Barley chassis, with the interior trim of leather for the front seat and velour for the tonneau. There are three heavy plate glass panels on each side, the four front ones being designed to be removed and stored in a carriage pocket just back of the front seat, thus converting the car into an open model. The rear windows raise and lower. The price is $1,685.

Tire Prices May Go Higher Next Month

British Tax, Labor Situation and Prosperity of Country Chief Factors

AKRON, OHIO, Feb. 20—Although Akron manufacturers refuse to commit themselves, further increases in tire prices on March 1 or shortly after that date are considered highly probable in tire manufacturing circles here.

The principal factor which will enter into the new price elevations is, of course, the restrictions placed upon crude rubber production by the British Government and the exorbitant export tax which American consumers of rubber must pay the British Government. The total amount of this tax in a year is variously estimated at between $100,000,000 and $500,000,000 a year.

Another factor which will enter into higher prices is the fact that labor conditions in Akron are such as to have necessitated action by rubber companies tantamount to wage increase. The Goodyear, Goodrich, Firestone and Miller rubber plants all have put into effect programs of 10 per cent bonus payments to employees. These bonuses follow demands for wage increases which have been rejected by all companies.

Labor Turnover Heavy

Labor turnover is heavier in the rubber plants of Akron than it has been for several years, and manufacturers are endeavoring through the medium of the bonus to encourage steady employment and thus cut down the heavy cost entailed by a fluctuation of labor and an abnormal turnover every day.

A third factor in the probable price boosts on tires is the evidence of returned prosperity to the country. During the slump period the tire companies cut tire prices to rock bottom, but now that more prosperous conditions are returning they feel they are entitled to a slightly greater margin of profit, as many admit they went a trifle too far in their reduction of prices a year and two years ago.

Firestone and Goodyear Install Bonus Systems

AKRON, Feb. 17—As an indication of the returning prosperity to Akron tire producing companies, and of a possible labor shortage this spring, two of the major tire companies here have installed bonus systems for their employees rather than making flat increases in wages.

Both the Firestone and the Goodyear companies now are paying 10 per cent bonuses to hourly wage earners and piece workers, for steady attendance. At Goodyear's the bonus is paid only to industrians—employees with the company at least six months who are either native or naturalized citizens.

Southeastern Trade Reports Sales Gain

Pre-Show Meeting in Atlanta Brings Out Optimistic View for Current Year

ATLANTA, Feb. 21—That automotive sales in the southeastern territory were considerably better the first six weeks of 1923 than they were during that period last year or the year before, and that the outlook for the coming year portends the biggest volume the industry has yet enjoyed in this section, was the consensus of opinion among the automobile and accessory dealers and distributors at the final pre-show meeting of the Atlanta Automobile Association in mid-February.

Practically every department of the industry seems to have experienced this improvement, including accessories and tires, passenger cars and trucks and power farming equipment. Nearly 200 dealers were present at the meeting.

As to tractor sales this business in January was the largest in the past three years, and there is a promise of the best spring volume in the industry history in this section, due to the increased buying power of southern farmers. This also is largely responsible for betterment of passenger car sales in the smaller towns and communities of this section since last October and November.

Buying Power Great

High farm prices still prevail, and banks declare that the buying power of southern farmers is probably now proportionately greater than it has ever been.

That the manufacturing outlook for the year is unusually good seems indicated by reports of lumber men in Atlanta, who state that ash demand from the automobile trade has experienced practically no abatement.

Another tangible evidence of sales improvement and general business improvement is indicated by the fact that more new automobile dealer companies have been formed in the Southeast the past six weeks than over a similar period in a good many years, and that many new buildings are being constructed or are planned for this spring by existing companies.

Dallas Dealers Report No Letting Up in Sales

DALLAS, TEX., Feb. 19—The actual retail sales of automobiles by Dallas dealers during the first months of the year were considerably greater than was expected. If there is any slowing up in business lines, the retail automobile dealers have not seen it here. The sales for January were about 10 per cent greater than for the same month of the previous year.

The indications were, dealers said, that the automobile business would continue brisk through February. March they expect a big trade as a result of the automobile show. April business, the retailers say, should be about normal, while things will probably slow up in May and June. July business should be good in east, south and southwest Texas, the retailers claim, because of marketing the heavy vegetable, fruit, tomato, potato and berry crops, and August should show increased business in north, central and west Texas because of plenty of money from grain crops. After that the new cotton will be moving, and money will be plentiful in all sections of the State. Taking everything into consideration, the retailers expect the present year to set a new record.

Massachusetts District Shows Increase in Sales

SPRINGFIELD, MASS., Feb. 21—Car sales have been on the increase in this district since the first of the month, and there is a decided gain in truck sales, as transportation companies are obliged to buy more equipment to handle the heavy traffic put upon them by the present poor road conditions.

Sales and maintenance concerns look forward to a heavy business in the spring. Dealers have felt that the demand for cars was bound to be heavy anyway, and road conditions being so bad this winter, many car owners have decided to discard their old cars and buy new ones as soon as the state of travel becomes normal.

Henninger Will Manage New Process Gear Plant

SYRACUSE, Feb. 21.—Reorganization of the personnel of the New Process Gear Co., Inc., of this city, has been announced.

A. A. Henninger, formerly of Muncie, Ind., and for several years identified with the General Motors Corp., becomes general manager, succeeding Clayton R. Burt. E. Witker, formerly with the Durant organization in Ohio, serves as secretary and treasurer.

Henninger will direct the program of expansion which the Durant interests arranged when they took over the local plant. The schedule calls for a production of 60,000 complete sets of differential gears this month, and an increased number in March. The plant is now employing 800 men on full shifts and will enlarge its organization immediately to take care of 400 more.

The Adams Axle Co., which has also been merged with the Durant interests, is to begin production of axles here next month. This plant will give employment to at least 500 men.

CADILLAC SALES AT NEW MARK

DETROIT, Feb. 19—Sales of Cadillac cars in January set a new mark for that month and indications are that February will show a greater percentage of gain over the same month of other years. Distributors are ordering heavily in anticipation of a heavy spring demand.

Steady Gain Shown in Parts Business

Question of Getting New Orders Not Most Important Problem Confronting Makers

MILWAUKEE, Feb. 19—The first half of February has more than met expectations of manufacturers of passenger cars and of automotive units and parts with respect to volume. The shows have developed a gratifying volume of orders, with the more local shows running well up to the national expositions in business.

The parts industry in Milwaukee is more concerned at present in the problem of providing adequate capacity than getting new orders or shipping directions on previous contracts. Judging by the increase in business, day after day, the existing volume is only a forerunner of what may be expected when the spring season opens and cars get into owners' hands in the greatest volume.

Makers of automotive equipment going through jobbers' hands are working virtually at capacity to make deliveries according to schedule, and are not able to accumulate the usual surplus to meet the heavier demands that ordinarily come when the touring season in the Northern zones gets into full swing.

Retail Situation

The worst and most extensive cold wave of the present winter, which set in Feb. 14 and continued several days, had a deterrent effect upon retail sales in the Milwaukee district of passenger cars. This was especially noticeable because throughout the winter business was unusually active under the stimulus of a moderate season.

Dealers are booking good orders for spring delivery, despite current climatical conditions. The weather has probably a more serious effect on the movement of used cars than on new cars, increasing the used car problem for the time being. The outlook is considered as more promising as the winter wears on and spring is in sight.

German Sales Increase as Mark Drops in Value

PARIS, Feb. 10 (*by mail*)—An important increase in German automobile sales is reported as a consequence of the drop in the value of the mark resulting from the French occupation of the Ruhr.

Prices in marks have increased enormously, 28,000,000 to 30,000,000 marks being an average figure for a medium size car, but in foreign currencies the price is so low that export demand cannot be met.

Sales on the home market have also increased considerably, many of these purchases being made for speculation.

State Control Urged for Transport Lines

Railway Executives at Washington Conference Favor Bus and Truck Regulation

(*Continued from page* 490)

now advocating regulation of motor bus competition had formerly protested against the regulation of their properties and fares.

Secretary Fall said in part:

I take it that nowadays there is almost no dissent from the idea that effective regulation of public utilities is an established and necessary part of public policy. Yet none of us is so young as not to remember when there was vigorous opposition to that policy. Regulation is coming to be recognized as a means to preserving necessary and vested rights, quite as much as to limiting the power of established interests.

The same gentlemen who used to protest against the regulation of commission of their properties and fares are nowadays demanding regulation of motor bus competition and jitney services. Likewise, among the steam railroad and the interurban trolley managers, there suddenly is developed a powerful sentiment in favor of regulating the motor-truck competition which has become such a vast factor.

All these things need and require regulation in the general interest. We may wish sometimes for a return to the "good old times" of free competition, of laissez faire, of unrestricted and unregulated freedom in business; but we know perfectly well that we shall never live in those times again. Things are too complex and too rapidly changing to make it safe to do away with our safeguards.

McCarter Urges Control

Thomas M. McCarter, president of the Public Service Railway Corp. of New Jersey, strongly advocated control by the State or communities of all forms of motor vehicles operated for profit.

He predicted that electric railways always would be in existence and no measurable expansion of motor transportation would make them disappear. It was his contention that electric carriers would be the chief means of mass transportation. He believes that the place for the bus is as a feeder to the larger carriers.

McCarter admitted that the electric carriers had a real competitor in the passenger automobile. He said it was to be expected as a development of the age. McCarter is opposed to the unrestricted competition of the bus.

It was suggested to the convention by McCarter that steps be taken to prevent bus carriers from parallelling established electric lines.

Objects to States Aiding Roads

John A. Prescott, president of the Investment Bankers Association of America, said that State aid in highway construction was an unjust burden to the electric railways, especially interurban roads, as this policy turns capital toward highway construction, which usually parallels interurban lines. He said that the unregulated condition of motor transport today was an indication of bad economics.

A good deal of the agitation to tax motor vehicles on an equality with electric carriers is inspired by the desire to bring more investors into the electric railway field, he held.

State Senator Frederick W. Davenport, chairman of the New York State Joint Legislative Committee on Taxation and Retrenchment, informed the convention that a four years' study of the utility tax situation in New York and elsewhere convinced him that New York State railways are paying 44 per cent of their net profits in State and local taxes. He declared that utility taxes should be assessed on the earning power of the property and not on its value.

During the discussion in the open session, the receiver for the Danbury Connecticut Traction Line stated that he could not see how electric roads could prosper in the face of unrestricted bus competition.

Syra-Cord Tire Prepares for Resuming Production

SYRACUSE, Feb. 21—Formal approval of the reorganization of the Syracuse Rubber Co. as the Syra-Cord Tire & Rubber Corp. has been given by Federal Judge John R. Hazel.

The approval was in the form of confirmation of the sale of the plant of the company to the new corporation for $25,000. Stone & Seymour & Co., Inc., the reorganization managers, made the formal bid for the plant and all other assets. The new concern assumes a bonded debt and claims of creditors of approximately $350,000.

Creditors and stockholders of the old firm who have not given approval of the plan though there have been no objections filed, have been granted additional time to participate in the reorganization. A total of 1402 stockholders of the company have purchased $200,000 worth of 6 per cent preferred stock and have paid in $93,000.

With the refinancing assured, plans have been prepared for the resumption of production.

Packards to Be Driven by De Palma and Boyer

INDIANAPOLIS, Feb. 19—Following the filing of the entries of three Packards for the International 500-mile race, Col. Jesse G. Vincent announces that two of his drivers will be Ralph De Palma and Joe Boyer.

The former has had charge of the construction of the racing cars. Boyer is no stranger in the racing world, having been one of the Duesenberg team that raced in the French Grand Prix two years ago, when Murphy won.

The Packard entry followed the announcement of the first nomination made, that of Harry Miller of Los Angeles, who built the car Murphy drove to victory at Indianapolis last year. Miller has not named his pilot yet.

Scottish Show Adds to British Optimism

Demand Improved Over Year Ago—Truck Prospects Somewhat Brighter

LONDON, Feb. 10 (*by mail*)—The annual Scottish show which has just concluded after running for ten days has sent the majority of makers back to their plants in a far different frame of mind than they returned last year. Reports indicate that firm orders were taken for double and even treble the number of passenger cars for most of the well-known makes.

That the improved demand was not by any means confined to low-priced or small cars is evident from the fact that one maker, handling a range of three models of 8, 12 and 16 hp., reports the latter, selling at approximately $3,750, as making the best appeal in Scotland.

The show, held in Glasgow, included trucks and motorcycles, as well as passenger cars, but although in respect to trucks prospects are somewhat brighter than they were twelve months ago, improvement is very slow, and as was to be expected, the Scottish show did not bring any influx of orders.

There were, roughly, 240 exhibitors, over 100 makes of passenger cars being represented in addition to thirty makes of trucks and fifty of motorcycles. No new models of well-known British passenger cars were shown, but four new truck models appeared, three of these being designed for loads up to 3000 lb., and two of these three—Vulcan and Beardmore—represent practically the first British truck chassis for loads over 1400 lb. intended for use solely with pneumatic tires.

There are evidences elsewhere that British truck makers are at last waking up to the existence of a good demand for speed trucks running on pneumatics; hitherto all these small models have been planned for solid tires, with pneumatics optional. But one now hears of several other makers besides those named who have lighter chassis for 3000 lb. loads on the stocks, intended for use with pneumatics alone.

New Measure Would Allow Indianapolis Race May 30

INDIANAPOLIS, Feb. 20—The anti-Memorial day race bill situation entered another phase yesterday when a new bill was introduced in the Indiana Legislature, making it possible for Indianapolis to declare a special holiday for the international sweepstakes if the Memorial day race bill making it illegal to run May 30 passes, as now seems possible.

The Memorial day bill will not be acted upon finally until the end of this week or early next week, according to the plans of House leaders.

Howe Rubber Obtains $700,000 New Money

Control Passes to Cleveland Men Who Have Figured in Refinancing Plans

CLEVELAND, Feb. 20—Operating control of the Howe Rubber Co., which has two plants in operation in New Brunswick, N. J., has come to Cleveland men who have underwritten stock of the corporation in a refinancing plan. Under the reorganization $700,000 of new money is put into the company.

Otis R. Cook and his associates in this city underwrote a large block of common stock of the company. Since May, 1922, Cook has been vice-president and sales manager of the company. He is now vice-president and general manager.

The corporation is capitalized with 70,000 shares of $100 par value preferred stock; 90,000 shares of no par common and $500,000 coupon notes. These notes were purchased and sold by Stanley & Bissel, investment bankers of this city. With the present set up of the company these notes are second in preference only to the current obligations.

John Tenny, Jr., remains as president of the corporation; Hugh M. Kerr has been made assistant general manager and also secretary and treasurer. Cleveland directors include Cook, Parmely W. Herrick, Joseph G. Fogg and Howard M. Bissell.

Cook says that sales will be 40 per cent greater this year than last. He said Howe earned its fixed charges and a substantial sum for its common stock last year, but no dividends were paid. If business continues at the present rate, dividends will start in 1923.

C. G. Spring Co. Offices Transferred to Detroit

KALAMAZOO, MICH., Feb. 19—The general offices of the C. G. Spring Co. will be moved to Detroit this week and be located on Grand Boulevard, about two blocks east of Woodward Avenue. The change will take from this city Christian Girl, Fred Cornell, sales manager; Herbert L. Jandus and Wayne E. Dunston and others in the engineering department and their respective families, also the company's chief auditor.

In addition to the general offices, the C. G. Spring has opened a large plating plant, a small manufacturing plant and greatly increased the facilities of its service station in that city.

"We are making the change for business reasons," said Christian Girl, president of the company. "A greater portion of our business comes from the Detroit territory, and it is to our advantage to be located right in the center of activities. The main plant will continue in Kalamazoo."

Reports just prepared show that during 1922 the company did a business in excess of $1,200,000, at a profit of $120,000, with a working capital of only $248,000. This meant a five times turnover for the year.

FINANCIAL NOTES

American Bosch Magneto Co. will issue its annual report the middle of March, showing the company broke about even on operations. There was considerable improvement the last half of the year but not sufficient to offset the losses of the first six months. January shipments this year were $860,000, the largest since September, 1920. They compare with $502,000 a year ago and are $200,000 above the average of last year.

Goodyear Tire & Rubber Co.'s new issue of $14,505,800 8 per cent cumulative prior preference stock voting trust certificates, offered through headed by Dillon, Read & Co., has been largely overscribed and, it is announced that no allotments will be made on oversubscriptions. The issue is redeemable as a whole or in part at 110 and accrued dividends on sixty days' notice.

Hupp Motor Car Co. has declared its regular quarterly dividend of 1¾ per cent on preferred stock, payable April 1 to stock of record March 15. The 10 per cent stock dividend on common recently approved is payable March 15. Hupp reports 1922 net profits of $3,778,780 after deducting for Federal taxes, as compared with $890,278 in 1921.

Ajax Auto Parts Co. of Racine, Wis., has increased its capitalization from $100,000 to $200,000 in order to accommodate its increased business and provide for greater capacity. John W. Bate, formerly chief engineer of Mitchell Motors Co., is at the head of the company.

Hayes Wheel Co. has declared its regular quarterly dividend of 75 cents a share payable March 15 to stock of record Feb. 28. W. B. Brunsdage has been added to the board of directors.

George W. Davis Motor Car Co. of Richmond, Ind., has declared a 400 per cent stock dividend.

Auburn Statement Shows $191,891 Current Assets

AUBURN, IND., Feb. 20—No change in the personnel of the executives of the Auburn Automobile Co. was made at the annual meeting of stockholders. A. P. Kemp was returned as president and treasurer, J. I. Farley as vice-president and director of sales, E. A. Johnson as secretary, V. B. Walling as assistant secretary and J. Zimmerman as assistant treasurer.

In addition to Kemp and Farley, the directors elected include William Wrigley, Jr., H. H. Hitchcock, F. B. Hitchcock, J. H. Rose and Ralph A. Bard.

R. H. Faulkner, formerly of the Nash-Cincinnati Co., has been named sales manager, working in cooperation with Director of Sales Farley.

The company's annual statement shows current assets of $191,891 and current liabilities of $131,844, of which $15,677 is the 1922 Federal income tax. During the year 1000 shares of preferred stock were purchased in the open market and retired.

BANK CREDITS

Written exclusively for AUTOMOTIVE INDUSTRIES *by the Guaranty Trust Co., second largest bank in America.*

Last week the rate for call loans ranged between 4 per cent and 6 per cent, as compared with 4 per cent to 4¾ per cent in the preceding week. The situation remained unchanged for fixed date maturities. Quotations for all periods from sixty days to six months continued to be quoted at 4¾ per cent to 5 per cent, as in the preceding week. The prime commercial rate remained unchanged at 4½ per cent to 4¾ per cent.

Unfilled orders on the books of the United States Steel Corp. as of Jan. 31, 1923, amounted to 6,910,776 tons, an increase of 165,073 tons over the total at the end of the preceding month. For the first time since last October, the Jan. 31 figure showed a net increase in volume of unfinished business as compared with the preceding month and was the largest aggregate for any month since February, 1921, when 6,933,867 tons were reported. As compared with Jan. 31, 1922, the first month this year showed an increase of 63 per cent, while the increase over the low total of last February was a little more than 66 per cent.

Bradstreet's Food Index Number, based on the wholesale prices per pound of thirty-one articles used for food, stood at $3.40 last week, as compared with $3.36 for the preceding week and $3.13 for the week ending Feb. 16, 1922. The week ending Feb. 17, 1923, showed a gain of 1.1 per cent over the previous week and 8.6 per cent over the corresponding week in 1922.

On Jan. 31 unfilled orders for railroad locomotives totalling 1788, of which only eighty-nine were foreign orders, were the largest since early in 1920, when the records were first begun. During the month of January unfilled orders increased 196, and as compared with January, 1922, they showed an increase of 1581.

The Federal Reserve statement as of Feb. 14 showed an increase of $2,421,000 in gold reserves, but a decrease of $403,000 in total reserves. Bills on hand increased $83,661,000 and total earning assets $84,060,000. Deposits showed an increase of $66,251,000, and Federal Reserve notes in circulation $25,786,000. The Reserve ratio declined from 77 per cent to 75.3 per cent.

SEIBERLING SALES EXPAND

AKRON, Feb. 22—The Seiberling Rubber Co., as compared to sales of $385,000 in December of last year, estimates its February business will exceed $600,000, according to F. A. Seiberling, president. January sales exceeded $500,000, while sales for the first week in February showed an increase of 22.75 per cent over the best previous week in the company's history. The two Seiberling plants at New Castle, Pa., and Barberton, Ohio, are now producing at the rate of 1700 casings and 2000 tubes daily.

Simplified Practice Meeting to Be Held

Scheduled for March 9 Under Auspices of Division of Department of Commerce

WASHINGTON, Feb. 19—Representatives of automobile manufacturers, engineers, distributors, dealers, service men, car owners and business paper editors have been invited to attend a meeting called for March 9, at 704 Commerce Building, this city, by the Division of Simplified Practice of the Department of Commerce. It is planned at this conference to appoint a central committee representing these various interests in an endeavor to secure greater cooperative efforts along lines laid out by the department.

Four major objectives have been mapped out for the committee's consideration—better coordination of all current standardization activities, wider use and adoption of existing standards, broader application of the principle of simplification and greater support of the Hoover program of "government cooperation with industry."

The Department of Commerce has worked along similar lines with the lumber, marine and container industries with excellent results, and it is believed that the same idea can be worked out successfully with the automotive industry.

Would Embrace Entire Industry

As outlined in the call for the meeting this suggested central committee would be headed by H. M. Swetland, president of the Class Journal Co., with C. A. Musselman of the Chilton Co. of Philadelphia as vice-chairman.

It is hoped the rest of the committee can be made up of representatives from the following associations:

National Automobile Chamber of Commerce, Motor and Accessory Manufacturers Association, Society of Automotive Engineers, Rubber Association of America, Automotive Electric Association, Automotive Metal Wheel Association, Automobile Body Builders Association, Tire and Rim Association, Motor Cycle and Allied Trades Association, and American Gear Manufacturers Association.

National Association of Motor Truck Industries, Trailer Manufacturers Association of America, National Bureau of Standards, American Society of Agricultural Engineers, American Automobile Association, National Automobile Dealers Association, Automotive Equipment Association, National Tire Dealers Association, Automobile Electric Service Association, Automotive Service Association, National Association of Service Managers and other organizations identified with the industry.

RACINE TIRE EMPLOYEES LOSE

MILWAUKEE, Feb. 19—Efforts of employees of the defunct Racine Auto Tire Co., Racine, Wis., who bought shares of an issue of $200,000 second preferred stock, to have themselves set apart as regular creditors have failed. Judge Geiger of the Federal Court in Milwaukee denied the contention of the referee in bankruptcy that the money which employees paid the company for second preferred was in the nature of a loan, since the corporation guaranteed to return their money whenever they might demand it. Judge Geiger ruled that holders of second preferred could not be considered creditors any more than the holders of first preferred or common stock.

INDUSTRIAL NOTES

Shunk Manufacturing Co., Bucyrus, Ohio, will manufacture the Henderson motor truck hoist in the Allen plant in that city, having closed a contract with S. Franklin Henderson, owner of the patents. The hoist is of such design that it can be used on any truck from 2-ton to 10-ton. In addition to the hoist, special dump and box bodies for trucks will be built by Shunk.

Instant Collapsible Rim Co. has been established at Suffolk, Va., with a capital of $250,000 to manufacture collapsible steel rims for motor cars. A branch of the company has been located in Norfolk. The rim is being manufactured to adapt itself to all makes of cars. An extensive sales agency is being organized.

Transport Truck Makes Changes in 1923 Models

MT. PLEASANT, MICH., Feb. 20—Some changes have been made in the transport truck line for 1923. The line will be in six capacities, nominally rated at 2000, 3000, 4000, 6000, 7000 and 10,000 lb.

The 2000 and 6000 lb. trucks are equipped with Continental engines, and the other models are now fitted with the new Buda removable head type engine. United air cleaners are now standard equipment.

Another change is the incorporation of silico manganese alloy steel springs in place of carbon steel on the 1-ton truck. The universal joints are Blood Bros.

FARRAN-OID OFFICES MOVED

AKRON, Feb. 19—The Farran-Oid Co., formerly the Farran-Kinney Co., manufacturer of Farran-Oid fan belts, has moved its general offices from Chicago to Akron, locating at 209 Water Street. The move is made to bring the sales and administrative offices in closer touch with the production and shipping departments. The personnel of the organization remains unchanged, except that Frank H. Harris has been appointed supervisor of production and sales.

LUBRETOR CO.

A statement published in the Feb. 8 issue of AUTOMOTIVE INDUSTRIES to the effect that the Lubretor Co. of Columbus had been reorganized was in error, the Lubretor Co. being a new concern and not a reorganization. H. M. Bone is secretary of the company.

METAL MARKETS

Purchasing agents of automotive plants are beginning to encounter the same perplexities as those which abounded in the steel market three years ago. Producers are turning down more orders than they are booking. Specifications and shipping periods must be attractive to make sellers at all eager for the business. As for prices, premiums have again become the rule instead of the exception. Not unlike the conditions which prevailed during the post-armistice boom, consumers are once more bidding against one another, and all that producers have to do is to let buyers set the pace.

Some of the premiums offered by the larger automotive consumers of steel products appear to be based on the principle that it is more economical to offer inducements to mills so as to keep the supply of steel flowing to the consuming plants in conformity with the tonnages called for by operating schedules than to hazard the interruption of operations by a shortage of steel, and furthermore that these premiums will be more than justified if, by their payment, this flow of steel products can be maintained without the necessity of accumulating large reserves. That the steel market was destined to soar could be foreseen last December.

They are apparently of the opinion that it is more advantageous to pay whatever price is necessary to obtain their supplies as nearly as possible from hand to mouth than to incur the slightest risk in obligating themselves for any steel tonnages beyond those that will be instantly absorbed by their operating schedules. In a market like the present one, however, with steel producers having the whiphand it is only natural that many consumers will be obliged to assume obligations for more deferred deliveries so as to obtain their immediate requirements. The risk of their accumulating a surplus of relatively high-price steel is, therefore, one to be recognized and as much as possible to be guarded against. The market has not yet reached runaway proportions, but the more thoughtful among the large steel interests are already putting on the brakes. They are not averse to the profits which prevailing bids for steel make possible, but they know very well that following a runaway market there comes retribution, and the penalty which 1921 exacted for the excesses of 1920 exceeded the profits of the latter year.

Pig Iron. — Central West automotive foundries have bought foundry and malleable in liberal tonnages and first half of the year requirements appear to be fairly well covered, so that future market developments are looked forward to more or less serenely.

Aluminum.—The domestic producer has advanced ingot quotations 1 cent per pound to 25 cents for 98 to 99 per cent. Sheet prices are said to have undergone no upward revision. The market for imported ingot metal is about 1 cent below the domestic producer's quotation.

Copper. — Copper and copper and brass products have now reached prices that denote the complete termination of the copper market's post-war period of vicissitudes. A feature of the market of special interest to automotive consumers is that prices for wrought copper and brass products have of late advanced almost simultaneously with corresponding advances in the raw copper market, whereas in former years there was usually quite an interval between a rise in the raw copper market and the inevitable advance in wrought products.

Calendar

SHOWS

May 13-20 — New York, Spring Salon, Hotel Commodore.

FOREIGN SHOWS

March 31 - April 29 — Madrid, Spain, International Automobile Exposition at the Palacio de Exposiciones, showing automobiles, motorcycles, accessories and equipment, under the auspices of the Chambre Syndicale de l'Automobile et du Cycle.

May 9 - June 12 — Gothenburg, Sweden, International Automobile Exhibition. Sponsored by the Royal Automobile Club of Sweden.

Oct. 4 - 10 — Paris, Passenger Cars, Bicycles, Motorcycles and Accessories, Grand Palais.

Oct. 24-Nov. 2—Paris, Trucks, Agricultural Tractors, etc., Grand Palais.

RACES

May 10 — Berlin - Grunewald, German Grand Prix.

May 30—Indianapolis, Eleventh Annual 500-mile International Sweepstakes.

July 2 — Tours, French Grand Prix 500-mile race.

CONVENTIONS

May 2, 3, 4 — New Orleans, Annual Convention of the National Foreign Trade Council.

May—New York, Annual Convention of the United States Chamber of Commerce.

Oct. 24-26—Cleveland, Thirtieth Annual Convention of the National Association of Farm Equipment Manufacturers, Hotel Statler.

S. A. E. MEETINGS

Metropolitan Section

March 15—Speaker, William P. Kennedy, President, Kennedy Engineering Corp.; Subject, Trolley Buses and Flexible Vehicles for Street Railway Service.

April 19—Speaker, Edw. E. La Schum, General Superintendent, Motor Vehicle Equipment, American Railway Express Co.; Subject, Engineering Features of Fleet Operation.

May 17—Speaker, F. P. Gilligan, Secretary, Henry Souther Engineering Co., Subject, Metallic Materials for Automotive Work.

Other Meetings

March 2—Meeting in the General Motors Building, Detroit, 8 P. M. — Recent Development in Paint and Varnish Chemistry—Valentine Pulsifer.

April 26-28—Cleveland Section—Automotive Transportation.

June 19-23—Summer Meeting of the S. A. E.—Spring Lake, N. J.

October—Production Meeting of the S. A. E.—Cleveland.

Fords Enter French Fuel Test Road Race

PARIS, Feb. 10 (*by mail*)—Twenty-six cars have been entered in the three classes provided for the French Grand Prix fuel consumption road race, to be run at Tours on July 1, preceding the 500-mile 122 cu. in. race. In the lighter two-seater class, with a weight limit of 771 lb. and fuel allowance at the rate of 39.3 miles to the American gallon, the entrants are six Aries, four Salmson, three Mathis, one Senechal and one Phrixus.

In the light four-seater class, minimum weight 1984 lb. and fuel allowance at the rate of 23.5 miles per gallon, the contestants are three Aries and three Peugeot cars. The big car class, with a minimum weight of 3086 lb. and fuel allowance of 15.7 miles to the gallon, has as competitors an Aries and three Peugeots. The race will be run with only one man aboard, but with ballast representing either one or three passengers, according to the class.

Two Ford specials have been entered in the four-seater light car class, but do not figure on the official list, for the rules stipulate that the race is open only to automobile manufacturers. The Montier Co., which has fitted a special head to the Ford engine and made various changes in the chassis, claims that it is entitled to this designation. Being in doubt, the Sporting Commission of the French Club proposes to refer the matter to Henry Ford.

OTT OFFICERS ELECTED

DUQUESNE, IOWA, Feb. 19—The Ott Rubber Co., recently organized with $300,000 capital stock to manufacture inner tubes for automobiles and other vehicles, has been organized as follows: President and general manager, Joseph J. Ott; vice-president, A. F. Heeb; and secretary-treasurer, Frank E. Ott.

Directors are A. F. Heeb, W. H. Klauer, George W. Myers, Joseph J. and Frank E. Ott.

Sites are being viewed now and factory buildings will be started as soon as desirable location is secured. The incorporation details have been completed and the company authorized to do business at once.

Dodge Purchasing Agent Speaks on Wood Wastage

MILWAUKEE, Feb. 19—Addressing the annual session of the Northern Hardwood and Hemlock Association in this city, A. E. Pope, purchasing agent of Dodge Brothers, Inc., Detroit, suggested the establishment of a communal or master woodworking plant by twenty or thirty of the sawmill operators in the northern Wisconsin and upper Michigan hardwood belt as at least a partial solution of the problem of the present enormous waste in the lumber manufacturing industry.

Pope detailed the tremendous consumption of hardwoods by the automotive industries and the wastage occurring in the resawing of raw material by the consumers. By cutting dimension stocks at the mills or nearby, Pope said this wastage could be almost entirely eliminated and would benefit the hardwood industry by raising the present low values of common grades.

The suggestion is being given serious consideration by the executive committee of the Northern association and has found considerable favor. It is believed that the financial problem will be a minor one. O. T. Swan of Oshkosh, Wis., executive secretary of the association, is working out details of proposed plans.

TO USE BENZOL IN AIR FLIGHT

PARIS, Feb. 10 (*by mail*)—In an attempt to wrest the world's height record from McReady, Jean Casale, French aviator, will use benzol instead of gasoline for the 500 hp. high compression engine now being prepared for him. Casale states this is the first time benzol has been used for a height record. The plane weighs 1985 lb. with pilot aboard and is expected to climb to an altitude of 7½ miles above sea level.

1922 Added Mileage to Lincoln Highway

DETROIT, Feb. 19—Reporting on its accomplishments in 1922, the Lincoln Highway Association states that 243 miles of road were built last year at a cost of $4,678,041, and that $1,368,126 was spent in maintenance. It is estimated that by the end of 1923 more than $50,000,000 will have been expended on the improvement of the "Main Street of the Nation."

Secretary A. F. Bennet says:

From our estimates it is evident that bringing the Lincoln Highway to a statisfactory status of improvement will require a total expenditure of some $70,000,000. At the rate of five or six million dollars a year, a sum less than the average expenditures of the past five years, the first completion of the route can be foreseen about the end of 1925. Of course the route will be in splendid condition for the greater part of the distance long before that. It would be open in its entirety, without the possibility of any real difficulties, for the heavy traffic of 1923 were it not for the stubborn refusal of one State to complete a short and important link. As it is, the coming season's traffic will have to take its chances as usual on the short Utah desert stretch.

Work Accomplished During Year

Briefly summarized, the work accomplished on the Lincoln Way in 1922 is given in the following table:

State—	Mileage	New Construction	Maintenance
New Jersey ...	5.61	$1,160,823	$125,395
Pennsylvania ..	7.24	439,033	567,955
Ohio	9.13	372,718	40,430
Indiana	25.03	766,000	89,790
Illinois	2.53	70,658	33,000
Iowa	49.80	702,674	120,088
Nebraska	69.60	527,000	*100,000
Wyoming	34.00	135,433	77,860
Utah	None	None	*5,000
Nevada	48.00	435,171	20,993
California	2.50	68,529	187,612
	243.44	$4,678,041	$1,368,126

*Estimated.

Of this total, there were 56.91 miles of concrete road built; 15.13 of brick, 144 of gravel and 27.40 of permanent earth grade.